18.8300

S/081/61/000/020/051/089
B107/B101

AUTHORS: Sarkisov, E. S., Sentyurev, V. P., Pogodin, V. P.

TITLE: Intercrystalline corrosion of 0X18H9T (OKh18N9T) steel in water at high temperatures

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 260, abstract 20I156 (Sb. "Korroziya reaktorn. materialov". M., Atomizdat, 1960, 145 - 148)

TEXT: The standard method (AM(AM) method, ГОСТ 6032-50 (GOST 6032-50)) for testing the tendency of steels to form intercrystalline corrosion is suitable in water at high temperatures of 300 - 350°C. The method AM ГОСТ 6032-58 (AM GOST 6032-58) yielded negative results when testing 0X18H9T (OKh18N9T) steel for intercrystalline corrosion in water at pH 3.2 - 7.0, 360°C, and 200 atm during 4000 hr. [Abstracter's note: Complete translation.]

Card 1/1

OPARINA, Ye.M.; SENTYURIKHINA, L.N.; PISAREVSKAYA, Ye.E.

Effect of unsaponifiables of oxidized petroleum wax on the properties of greases. Trudy VNII NP no.7:367-373 '58. (MIRA 12:10)

(Lubrication and lubricants) (Paraffins) (Oxidation)

VOLCHINSKAYA, N.I.; SENTYURIKHINA, L.N.; OPARINA, Ye.M.

Study of the thixotropic qualities of solid oils. Trudy VNII NP no.7:374-378 '58. (MIRA 12:10)
(Lubrication and lubricants)

S/081/60/000/003/005/005

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 3, p. 504 # 10910

AUTHORS: Sentyurikhina, L. N., Oparina, Ye. M.

TITLE: Molybdenum Disulfide" a New Lubricant

PERIODICAL: Tr. Vses. n.-i. in-t po pererabotke nefti i gaza i polucheniyu iskusstv. zhidk. topliva, 1958, No. 7, pp. 403-409

TEXT: The purification process is described for moybdenites of the Vostochno-Kounradskiy deposit, which makes it possible to obtain MoS_2 with a purity of 98,6%. Crushing, sifting, flotation and treatment of molybdenite by chemical reagents (HCl, HF) were used in the purification. In the grinding of pure MoS_2 the best results were obtained with dry grinding in a jet mill and crushing of MoS_2 suspensions in volatile liquids (alcohol, toluene, dichloroethane, water) with the application of ultrasound. Methods were described for applying MoS_2 films on rubbing surfaces by means of binding substances (various synthetic resins) and solvents.

Ye. Pokrovskaya

Card 1/1

SOV/65-58-11-11/15

AUTHORS: Sinitsyn, V. V; Gol'din, S. A; Vinogradov, G. V. and Sentyurikhina, L. N.

TITLE: Electronmicroscopic Investigations of the Structure of Consistent Greases Made From Synthetic Acids (Elektronmikroskopicheskoye issledovaniye struktury konsistentnykh smazok na sinteticheskikh kislotakh)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 11, pp 51 - 58 (USSR)

ABSTRACT: At present, lubricating oils and greases are made from synthetic acids which are prepared by the oxidation of paraffin. Their characteristics differ from those of lubricating oils made from edible oils, especially in their thixotropic properties, which is due to their different structures. A microscope EM-3 was used during the investigations on samples prepared according to the method described by G. V. Vinogradov (Ref.13). The samples were suspended in petroleum ether (1:200) and maintained in the solvent for a period varying from a few minutes to three months. In some cases benzene, toluene, carbon tetrachloride, dichloroethane and ethyl alcohol were used as solvents. Samples were heated to 55 - 65°C when lubricants were made from synthetic acids

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Electromicroscopic Investigations of the Structure of Consistent Greases Made From Synthetic Acids

containing a small amount of unsaponified matter. Anhydrous lithium and calcium lubricants (greases) and also commercial synthetic greases were tested. Lithium and calcium lubricants, made from individual fatty acids, were also prepared for comparative tests. A method was developed for investigating the structure of the suspension of individual hard hydrocarbons (paraffins) in organic solvents. White Drogobych paraffin with a melting point of 52°C was subjected to oxidation under laboratory conditions until the acid number equalled 70 mg KOH; this operation lasted 18 - 24 hours. The lithium lubricants were prepared from acid fractions of $C_{14}H_{28}O_2$ acids and from mixtures of $C_{16}H_{32}O_2$ and $C_{18}H_{36}O_2$ acids. The calcium lubricants were prepared from the same fractions and also from $C_{18}H_{36}O_2$ acids. Lithium fractions had a similar structure as commercial lubricants thickened with lithium stearate, and only differed from the latter by the degree of dispersion of needle-shaped soap crystallites which are formed in the dispersed phase (Figs. 1 and 2). The dispersed

Electronmicroscopic Investigations of the Structure of Consistent Greases Made From Synthetic Acids

phase of calcium lubricants, thickened with soaps of synthetic acids (Figs. 3 - 5), is formed by laminar particles. Unsaponified substances influence the dimensions and forms of the original particles of the thickening agent. The flat band and laminar particles which form the structure of commercial synthetic greases (Fig.6) can be broken up easily by mechanical action. The low mechanical stability of synthetic greases is obviously influenced by the brittleness of the crystallites. The sharp difference in the structure of calcium lubricants made from synthetic acids and from edible oils explains the difference in their mechanical properties. It was also shown that anhydrous calcium lubricants, thickened with lithium stearate, have a similar structure as calcium lubricants for which synthetic acids with nearly equal molecular weight (the fraction $C_{18}H_{36}O_2$) have been used as thickening agents; the latter contained water but no unsaponified or polar compounds. A method is described for the electronmicro-

SOV/65-58-11-11/15

Electronmicroscopic Investigations of the Structure of Consistent Greases Made From Synthetic Acids

photography of microcrystallites of solid paraffins crystallized out from organic solvents. There are 9 Figures, 15 References: 11 Soviet, 1 French and 3 English.

Card 4/4

SENTYURIKHINA, L.N.; OPARINA, Ye.M.; RUBTSOVA, Z.S.; SUVOROVSKAYA, N.A.

Grease coatings. Khim.i tekh.topl.i masel 5 no.7:24-29 Jl '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.
(Lubrication and lubricants)

SENTYURIKHINA, L.N.

PHASE I BOOK EXPLOITATION SOV/5055

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Gidrodinamicheskaya teoriya smazki. Opory skol'zheniya. Smazka i smazochnyye materialy (Hydrodynamic Theory of Lubrication. Slip Bearings. Lubrication and Lubricant Materials) Moscow, Izd-vo AN SSSR, 422 p. Errata slip inserted. 3,800 copies printed. (Series: Its: Trudy, v. 3)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya.
Resp. Eds. for the Section "Hydrodynamic Theory of Lubrication and Slip Bearings": Ye. M. Gut'yar, Professor, Doctor of Technical Sciences, and A. K. D'yachkov, Professor, Doctor of Technical Sciences; Resp. Ed. for the Section, "Lubrication and Lubricant Materials": G. V. Vinogradov, Professor, Doctor of Chemical Sciences; Ed. of Publishing House: M. Ya. Klebanov; Tech. Ed.: O. M. Gus'kova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in [illegible] and

Hydrodynamic Theory (Cont.) SOV/5055

~~Card 10/17~~

29452
S/08./61/000/017/154/166
B117/B110

11.9500

AUTHORS: Al'shits, I. Ya., Oparina, Ye. M., Sentyurikhina, L. N., Sushkina, L. N.

TITLE: Experimental use of molybdenum disulfide as a lubricant

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 474, abstract 17M234 (Tr. 3-y Vses. konferentsii po treniyu i iznosu v mashinakh. M., AN SSSR, v. 3, 1960, 172-177)

TEXT: Tests made with MoS_2 (in powder form, and also as a paste or a film with binding agents) on friction machines and pilot plants have shown that at high specific pressures this compound presents certain advantages over other lubricants tested at the same time (graphite, lubricants ЦИАТИМ-208 (TsIATIM-208), ЦИАТИМ-221 (TsIATIM-221), and others). Positive results were also achieved by using MoS_2 as a protective agent against fretting corrosion, and by cold-rolling ribbed pipes from aluminum ingots.
[Abstracter's note: Complete translation.]

Card 1/1

S/110/61/000/001/013/023
E194/E455

AUTHORS: Sentyurikhina, L.N., Candidate of Chemical Sciences and Prokhorov, M.V., Engineer

TITLE: The Selection of Grease For the Bearings of Electrical Machines

PERIODICAL: Vestnik elektropromyshlennosti, 1961, No.1, pp.41-44

TEXT: The lubrication of rolling bearings is briefly discussed. Oil is a better lubricant but grease is widely used for a variety of reasons. The most widely used greases are grades УТВ (1 - 13) (UTV (1 - 13)), ЦИАТИМ-201 (TsIATIM-201), ЦИАТИМ-203 (TsIATIM-203) and ЦИАТИМ-221 (TsIATIM-221). Greases based on natural and synthetic fatty acids can operate at temperatures up to 55°C; other greases suitable for high temperatures often do not have such good resistance to moisture. Recently, new high-temperature greases have been developed, for example, grades ВНИИНП-220 (VNIINP-220) and ВНИИНП-214 (VNIINP-214), which are better than existing grades in respect of operating temperature and load-carrying capacity. Greases cannot be fully assessed by drop point and penetration. Other characteristics must be taken into account. Recommendations are then made about the selection

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S/110/61/000/001/013/023
E194/E455

The Selection of Grease For the Bearings of Electrical Machines

of various grades of grease, governing criteria being the temperature on the inner race of the bearing, the velocity factor dn (the product of the internal diameter of the bearing in mm and the speed in rpm) and the calculated load acting on the bearings. Different values of these factors, and recommended relubrication times, are tabulated for four grades of grease. Thus, for grease UTV (1 - 13) to standard ГОСТ 1631-52 (GOST 1631-52) with an inner race temperature of -40 to +70°C, a velocity factor of 50000, and a calculated load of 500 kg, the recommended relubrication time is 4000 hours operation but not less than once in three years. For temperatures up to 95°C, velocity factor of 300000 and load of 3000 kg, the relubrication time becomes 1000 hours or not longer than once in six months. For grease VNIINP-214 and ВТУНП -37-59 (VTUNP-37-59) for temperatures of -60 to +180°C with a velocity factor of 200000 and calculated load of 3000 kg, relubrication is required after 250 hours operation and after not longer than one month. Various factors that influence the life of grease in bearings are briefly discussed and the need

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S/110/61/000/001/013/023
E194/E455

The Selection of Grease For the Bearings of Electrical Machines

to displace all old grease from the bearings when relubricating is mentioned. There are 1 figure, 1 table and 5 references: 4 Soviet and 1 non-Soviet.

SUBMITTED: July 21, 1960

Card 3/3

S/065/61/000/007/001/005
E030/E435

15.6900 2550T

AUTHORS: Sentyurikhina, L.N., Malyshev, B.N., Oparina, Ye.M. Rubtsova, Z.S.

TITLE: Solid high temperature high vacuum greases

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1961, No.7, pp.13-16

TEXT: An experimental study has provided the optimum method of applying molybdenum disulphide to metallic surfaces as a lubricant. The films are stable up to decomposition temperatures which depend on the nature and pressure of the gas as follows: inert gas, at atmospheric pressure, up to 1300°C; in air, at atmospheric pressure, 45°C; 800° at 10^{-4} mm Hg; 900° at 10^{-5} mm Hg; 1100° at 10^{-6} mm Hg. The purity of the MoS_2 used was 99.5%. The poor adhesion properties of MoS_2 were best overcome by washing the metal surfaces in alkali to remove oxide films, and then spraying on a solution of MoS_2. The nozzle to metal distance is fairly critical, the optimum being established at about 20 cm. Several types of solvent were tested; 1. those strongly adhering to metal (БМК-5 (BMK-5); Э-41 (E-41)) (nitrocellulose); 2. those with carbonaceous ash on heating (К-2-12-01, Э-116 (E116));

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S/065/61/000/007/001/005
E030/E435

Solid high temperature ... 25502

3. thermally stable, producing delicate films (K-55, i.e. polymethylphenylsiloxane resin); 4. thermally stable, producing elastic films. All solvents except K-55 gave films stripping completely on heating to 900°C. K-55 gave films, satisfactory according to incision tests for strength. To harden the film after application, it should be heated gently to 600°C, maintained at that temperature for 20 min then heated to 850 to 900°C and maintained at that temperature for 15 min. Tests on a stainless steel rotating cylinder showed the optimum concentration of MoS_2 in the solvent to be 10%. At present such a suspension is manufactured under the name of ВНИИ НП-209 (VNII NP-209). There are 2 tables and 5 references: 4 Soviet and 1 non-Soviet.

ASSOCIATION: VNII NP

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L 7710-66 EWT(m)/EPF(c)/T/EWP(t)/EWP(b) IJP(c) JD/DJ

ACC NR: AP5027588 SOURCE CODE: UR/0065/65/000/011/0041/0045

AUTHOR: Rubtsova, Z. S.; Sentyurikhina, L. N.

ORG: VNII NP

TITLE: Molybdenum disulfide-based solid lubricants

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 11, 1965, 41-45

TOPIC TAGS: solid lubricant, molybdenum disulfide, lubricant performance

ABSTRACT: The All-Union Scientific Research Institute for Oil and Gas Refining and the Production of Synthetic Fuel (VNII NP) has developed several MoS_2-based solid lubricants. These VNII NP brand lubricants are produced in the form of finely divided powders, solid compacts, pastes or solid lubricant coatings. The lubricants (whose composition is not given) and their applications are tabulated in the source. Service life and antifriction properties were studied for the solid lubricant coatings. There are suspensions of MoS_2 in such solvents as ethyl alcohol, water, or butyl acetate with organic (VNII NP-212 and -230) or organosilicon or inorganic (VNII NP-209, -213, and -229) film-forming additives. The experiments were conducted in air, vacuum (10^{-5} torr), argon, and at -224 and 0—700C. In addition, the effect of Co^{60} irradiation was studied under static conditions. The testing methods are described in the source. The results of the study, given in the form of tables and graphs, indicate that the service life of the solid lubricant coatings is longest at

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100—200C; it is sharply shortened above 300C. VNII NP-212 and -213 perform best in air both at room and high temperatures owing to better adhesion of organic film-forming additives to metals. The working temperatures of VNII NP-209, -213, and -229 increase to 500—600C at 10^{-5} torr and in argon. Low temperatures (-254C) and irradiation with a dose of 10^{8}—10^{9} rad do not appreciably reduce the service life of solid lubricant coatings. The service life of these coatings decreases sharply in water or mineral oil. The performance of MoS_2-based solid lubricant coating is highly dependent on the preliminary treatment of the metal surfaces and the thoroughness of their degreasing. Orig. art. has: 3 figures and 3 tables. [BO]

SUB CODE: FP/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 004/ ATD PRESS: 4141

Card 2/2

L 00318-66 EWT(m)/EWP(w)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b) BW/JD/DJ/GS/RM

ACCESSION NR: AT5020437 UR/0000/65/000/000/0131/0134

AUTHORS: Sentyurikhina, L. N.; Rubtsova, Z. S.; Klimov, K. I.

TITLE: Investigation of life and antifriction properties of solid lubricants

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya smazochnogo deystviya i novyye materialy (Theory of lubricating action and new materials). Moscow, Izd-vo Nauka, 1965, 131-134

TOPIC TAGS: solid lubricant, lubricant property, molybdenum disulfide / VNII NP 212 lubricant, 213 lubricant, 229 lubricant, 230 solid lubricant

ABSTRACT: Four molybdenum-disulfide based solid lubricants developed by VNIINP, differing only by the type of film-producing substance used, were investigated for their life and antifriction properties. The destruction of the film producer was measured on apparatus PIM-2 as described by V. M. Martynov (Neftepererabotka i neftekhimiya. Sbornik, vyp. 8, M., Goskhimizdat, 1963) while the frictional stability was measured on apparatus ITK developed by Klimov (no reference given). The friction couple consists of a 5-mm diameter by 50-mm long roller and a nichrome strip (0.1 mm thick by 4.5 mm wide) which is loaded with 300 gm (included angle of 120°) against the roller rotating at 800 rpm; the strip moves at 4 mm/min

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ACCESSION NR: AT5020437 10

with respect to the roller, giving a sliding speed of 0.21 m/sec; the coefficient of friction μ is determined by torque measurement. After sand blasting and parkerizing, the steel surface was coated 20 micron thick with VNII NP-212 (K-41 102 - ureaformaldehyde resin film producer), -213 (K-55 silico-organic resin), -229 (sodium silicate), or -230 (EP-096 epoxy resin) lubricants. Weight loss and friction characteristics were determined as a function of temperature (150-400C). It was found that the weight loss (based on 30-minute test) of the organic binders EP-096 and K-41 102 was higher (up to 20% at 200-350C) than that for nonorganic K-55 and Ka_2SiO_2 (5-6% at 300-350C). The life and friction coefficient curves (see Figs. 1 and 2 on the Enclosure) were found to have maxima and minima respectively at ≈ 100C. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Nauchnyy sovet po treniyu i smazkam, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR)

SUBMITTED: 22May65 ENCL: 02 SUB CODE: FP

NO REF SOV: 006 OTHER: 007

Card 2/4

L 00318-66

ACCESSION NR: AT5020437

ENCLOSURE: 01

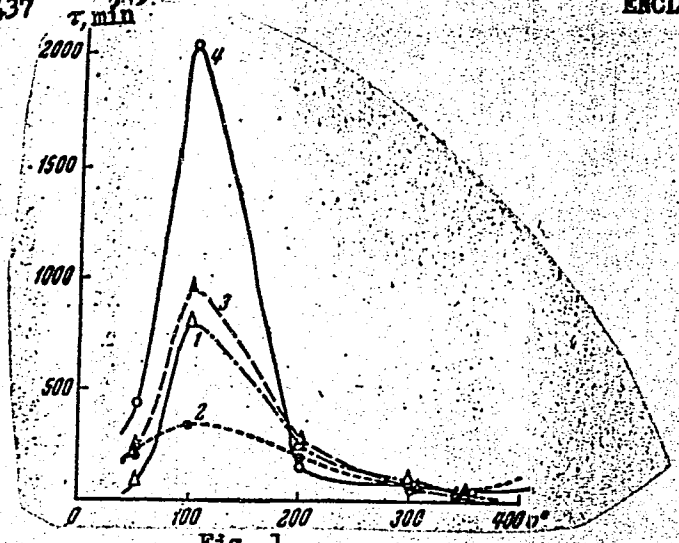

Fig. 1.
Life of solid lubricants:
1- VNII NP-213; 2- 229; 3- 230; 4- 212

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L 00318-66

ACCESSION NR: AT5020437

ENCLOSURE: 02

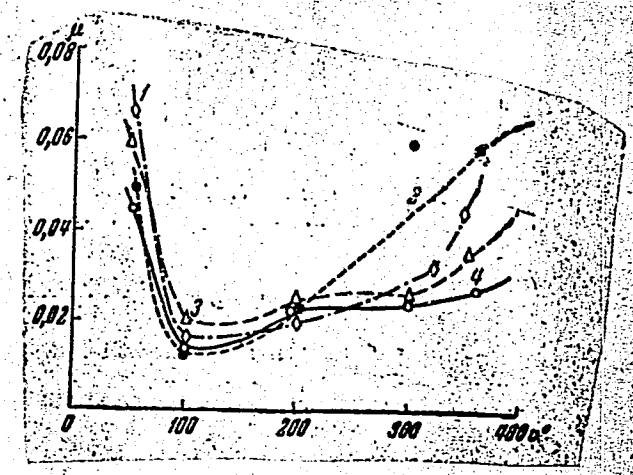

Fig. 2.
Friction coefficients:
(same as Fig. 1)

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L 21032-66 EWP(e)/EWT(m)/EWP(j)/T WW/DJ/GS/RM/WH

ACCESSION NR: AT5020438 UR/0000/65/000/000/0134/0138

AUTHORS: Oparina, Ye. M.; Sentyurikhina, L. N.; Dmitriyeva, V. G.; Pisarevskaya, Ye. K.; Petrova, L. N.

28
20
B+1

TITLE: High temperature lubricants based on dyes

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya smazochnogo deystviya i novyye materialy (Theory of lubricating action and new materials). Moscow, Izd-vo Nauka, 1965, 134-138

TOPIC TAGS: lubricant, dye based lubricant, lubricant additive/ TsIATIM 221s lubricant, PFMS 4 silicone fluid, ETs 3 centrifuge, FM1322/300 silicone fluid

ABSTRACT: Lubricants based on dyes which are stable up to 350C were investigated. Polymethylphenyl-siloxane liquids with different methyl and phenyl group ratios (E.M. Oparina i dr. Khimiya i tekhnologiya topliv i masel, 1961, No. 1) were used as the dispersion media. It was found from the volumetric mechanical properties that vat dyes blue "K," indigo, dioxyviolanthrone, and dimetoxyviolanthrone have weak thickening properties while the other dyes (pigment "SA" vat dyes blue "N," "O," and isoviolanthrone) form lubricants which are similar in mechanical properties and colloidal stability to silicone lubricants (TsIATIM-221s, for example). To

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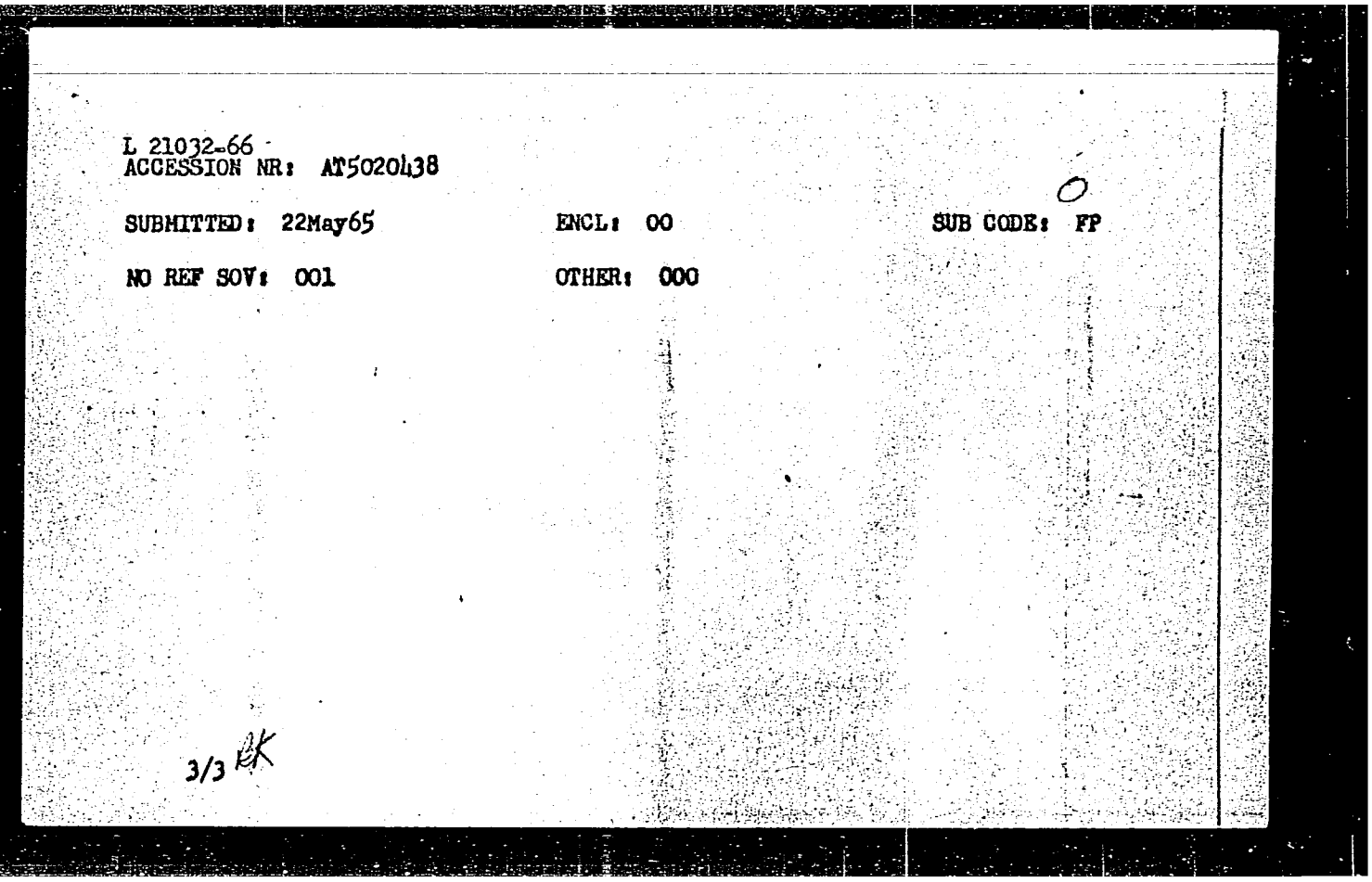
determine storage stability and high temperature stability, the lubricants were tested by the KSA method (350 gm load) and on heated centrifuge ETs-3 (at 150C for 5 hours) respectively. It was found that with PFMS-4 fluid the colloidal stability of good thickening dyes was better than that of less effective thickeners and comparable to TsIATIM-221s. Percent weight loss of lubricant based on different fluids (using pigment SA) was found to be 3.0, 4.2, 6.3 and 11.0% at 250C and 0, 17.1, 18.0 and 29.1% at 300C for PFMS-4, S copolymer 2/300, 6 copolymer 3, and FM1322/300 fluids respectively. It was also found that the plastic porperties, i.e., effective viscosity and strength of isoviolanthrone-based lubricants (after heat stabilization), were practically unchanged after 1000 hrs at 150C. Indanthrene and isoviolanthrone silicone lubricants were tested in ball bearings at high speeds (D_n = 300 000 mm rev/min) at 150C and 15000 kg/cm^2 and were found inferior to TsIATIM-221 lubricants. At lower speeds (to 10000 mm rev/min) and low loads the above lubricants operated longer than 1500 hours at 200C. Dyes can be used as thickeners in conjunction with graphite and molybdenum disulfide, giving up to 2500 hrs of service at 200C, 100 rpm, and 20000-25000 kg/cm^2 (lubricant NK-50 fails after 8-10 hrs under these conditions). At lesser speeds and loads service of 3000 hrs at 350C can be obtained. Orig. art. has: 4 tables.

ASSOCIATION: Nauchnyy sovet po treniyu i smaskam, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR)



L 21032-66
ACCESSION NR: AT5020438

SUBMITTED: 22May65 ENCL: 00 SUB CODE: FP

NO REF SOV: 001 OTHER: 000

3/3 RK

L 21032-66 EWP(e)/EWT(m)/EWP(j)/T WW/DJ/GS/RM/WH UR/0000/65/000/000/0134/0138

ACCESSION NR: AT5020438

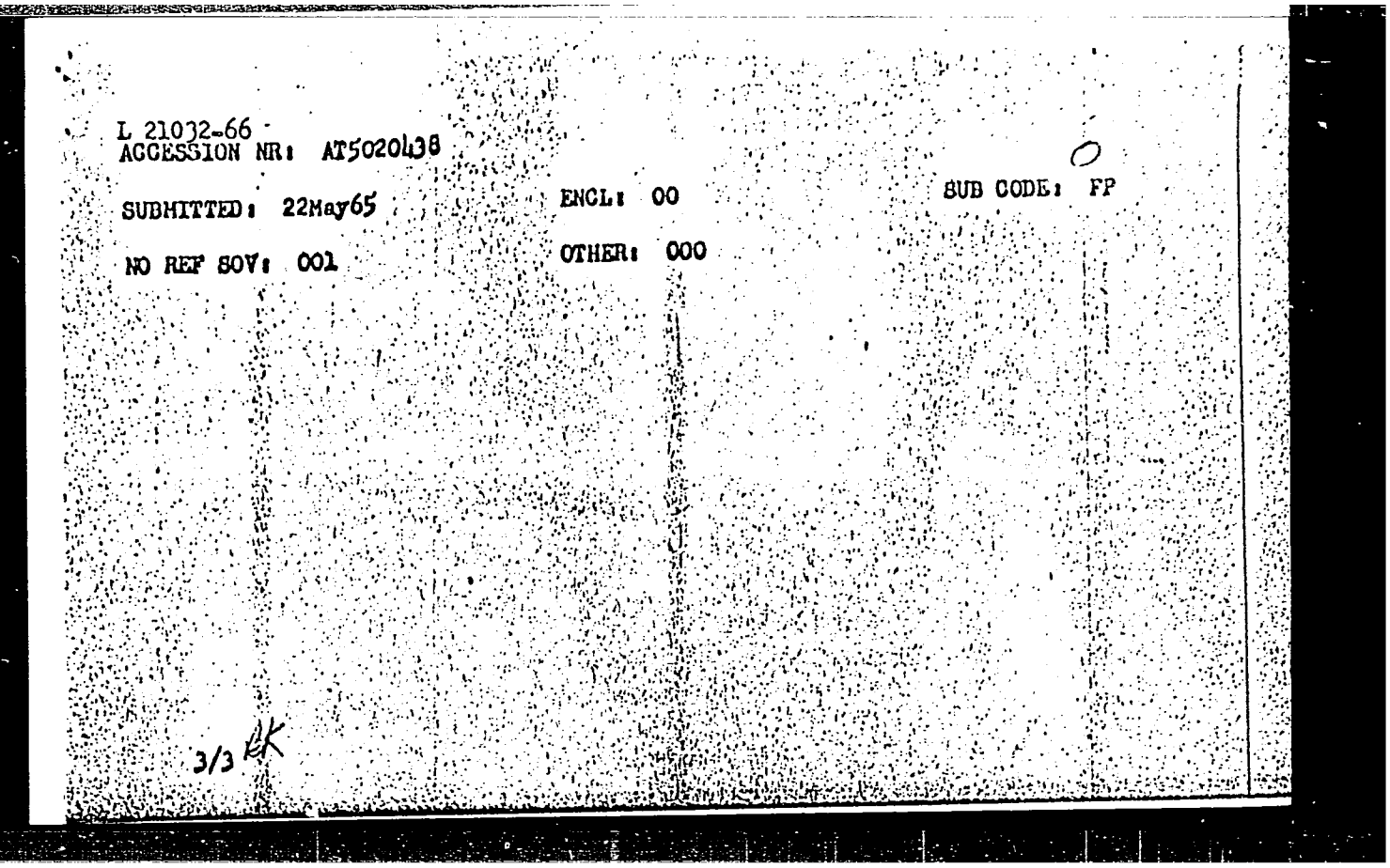
AUTHORS: Oparina, Ye. M.; Sentyurikhina, L. N.; Dmitriyeva, V. G.; Pisarevskaya, Ye. E.; Petrova, L. N.

TITLE: High temperature lubricants based on dyes

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya smazochnogo deystviya i novyye materialy (Theory of lubricating action and new materials). Moscow, Izd-vo Nauka, 1965, 134-138

TOPIC TAGS: lubricant, dye based lubricant, lubricant additive/ TsIATIM 221s lubricant, PFMS 4 silicone fluid, ETs 3 centrifuge, FM1322/300 silicone fluid

ABSTRACT: Lubricants based on dyes which are stable up to 350C were investigated. Polymethylphenyl-siloxane liquids with different methyl and phenyl group ratios (E.M. Oparina i dr. Khimiya i tekhnologiya topliv i masel, 1961, No. 1) were used as the dispersion media. It was found from the volumetric mechanical properties that vat dyes blue "K," indigo, dioxyviolanthrone, and dimetoxyviolanthrone have weak thickening properties while the other dyes (pigment "SA" vat dyes blue "N," "O," and isoviolanthrone) form lubricants which are similar in mechanical properties and colloidal stability to silicone lubricants (TsIATIM-221s, for example). To



L 21032-66
ACCESSION NR: AT5020438

SUBMITTED: 22May65 ENCL: 00 SUB CODE: FP

NO REF SOV: 001 OTHER: 000

3/3 BK

L 14718-66 EWT(m)/T DJ

ACC NR: AP6004284 (A) SOURCE CODE: UR/0117/66/000/001/0030/0031

55
54
B

AUTHORS: Oparina, Ye. M. (Candidate of technical sciences); Sentyurikhina, L. N. (Candidate of chemical sciences); Markov, V. A.; Rubtsova, Z. S.

ORG: none

11,44 11

TITLE: Dry lubricants with molybdenum disulfide, and the lowering of instrument wear

SOURCE: Mashinostroitel', no. 1, 1966, 30-31

TOPIC TAGS: lubricant, lubricant additive, lubricant component, high temperature lubricant, molybdenum disulfide / NP-229 lubricant

ABSTRACT: This is a comment on a paper previously published by M. S. Beletskiy, I. Ts. Raykhenshteyn, and O. K. Shatalova (Mashinostroitel' No. 7, 1965), in which those authors disputed the claim of Ya. K. Terent'yev that the solid lubricant (developed by him and containing MoS_2) had any wear-resistant properties. The present authors point out that by mixing MoS_2 with a suitable lacquer or resin it is possible to create a thin protective layer on the surface of cutting tools. Attention is drawn to several such lubricants developed by the All-Union Scientific Research Institute for Reprocessing of Petroleum (Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti) (in particular, lubricant VNII

Card 1/2 UDC: 621.892:661.877

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L 14718-66

ACC NR: AP6004284

NP-229)," which have been successfully used in industry. In some cases, the application of the lubricant increased the durability of instruments by a factor of 2 to 3. Orig. art. has: 1 table.

SUB CODE: 11/ SUBM DATE: none

BVK

Card 2/2

L 02962-67 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6032844 (A,N) SOURCE CODE: UR/0065/66/000/010/0046/0051

AUTHOR: Sentyurikhina, L. N.; Klimov, K. I.; Rubtsova, Z. S.; Rudakova, L. F.

ORG: VNII NP

TITLE: Effect of temperature on the service life of solid film lubricants

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 10, 1966, 46-51

TOPIC TAGS: solid film lubricant, thermal oxidative stability, service life, friction coefficient, film forming material, additive

ABSTRACT: A study has been made of the effect of temperature on the thermal-oxidative stability and service life [in air] of solid film lubricants based on certain organic and inorganic film-forming materials (see Table 1) which contain MoS_2 or graphite additives [percentage unspecified]. The thermal-oxidative stability of the materials was estimated from weight loss on the PIM-2 apparatus described previously (Martynov, V. M. Neftepererabotka i neftekhimiya, no. 8, 1963). Unlike the urea-formaldehyde film-forming material, the organosilicon and epoxy materials and, in particular, Na_2SiO_3, were shown to exhibit high thermal-oxidative stability at 300—350C. This stability was considerably improved by the addition of MoS_2. The service life (τ) and friction coefficient (μ) of the films were determined on the ITK apparatus described previously (Sentyurina, L. N. et al. Teoriya smazochnogo deystviya. Izd. Nauka 1965). The μ was low for films based on organofluorine or organic

Card 1/3 UDC: 621.893

L 02962-67

ACC NR: AP6032844

film-forming materials and higher for those based on organosilicon or inorganic materials. The μ of films based on film-forming materials belonging to a given class of chemical compounds varied but slightly. In contrast, τ was shown to depend on the molecular weight of the film-forming material and on the presence of surface-active groups. The τ was higher for films based on organic materials than for films based on inorganic materials. The functions $\tau = f(t^\circ)$ and $\mu = f(t^\circ)$ exhibited extrema; the highest τ and the lowest μ were observed at 100—200C. Study of the effect of additives showed that at 40—300C, solid film lubricants containing graphite had lower τ and μ than those containing MoS_2. τ and μ were intermediate for films containing a graphite -- MoS_2 mixture (1/9 ratio). Cycling from room to a subzero temperature had almost no effect on τ and μ [a discrepancy is found between the subzero temperature quoted in the text (-25°C) and in Table 4 (-250°C) of the original article] Film thickness did not affect τ. No direct correlation could be established between thermal-oxidative stability and τ. Orig. art. has 6 figures and 4 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 003/ ATD PRESS: 5099

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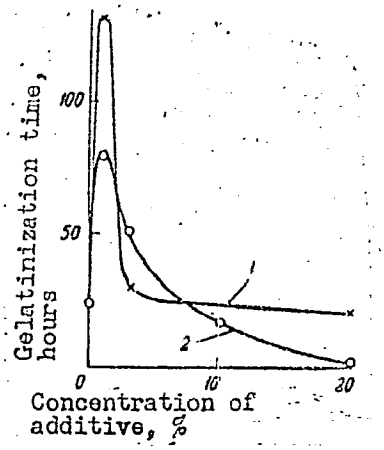
ACC NR: AP6035579

Fig. 1. Effect of the molybdenum disulfide and graphite concentrations upon the thermooxidative stability of PMS-100 at 250C: 1 - graphite; 2 - MoS_2



stability of these compounds; above that concentration, they rapidly accelerated the oxidation and depolymerization (see Fig. 1). Orig. art. has: 2 tables and 1 figure.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 001

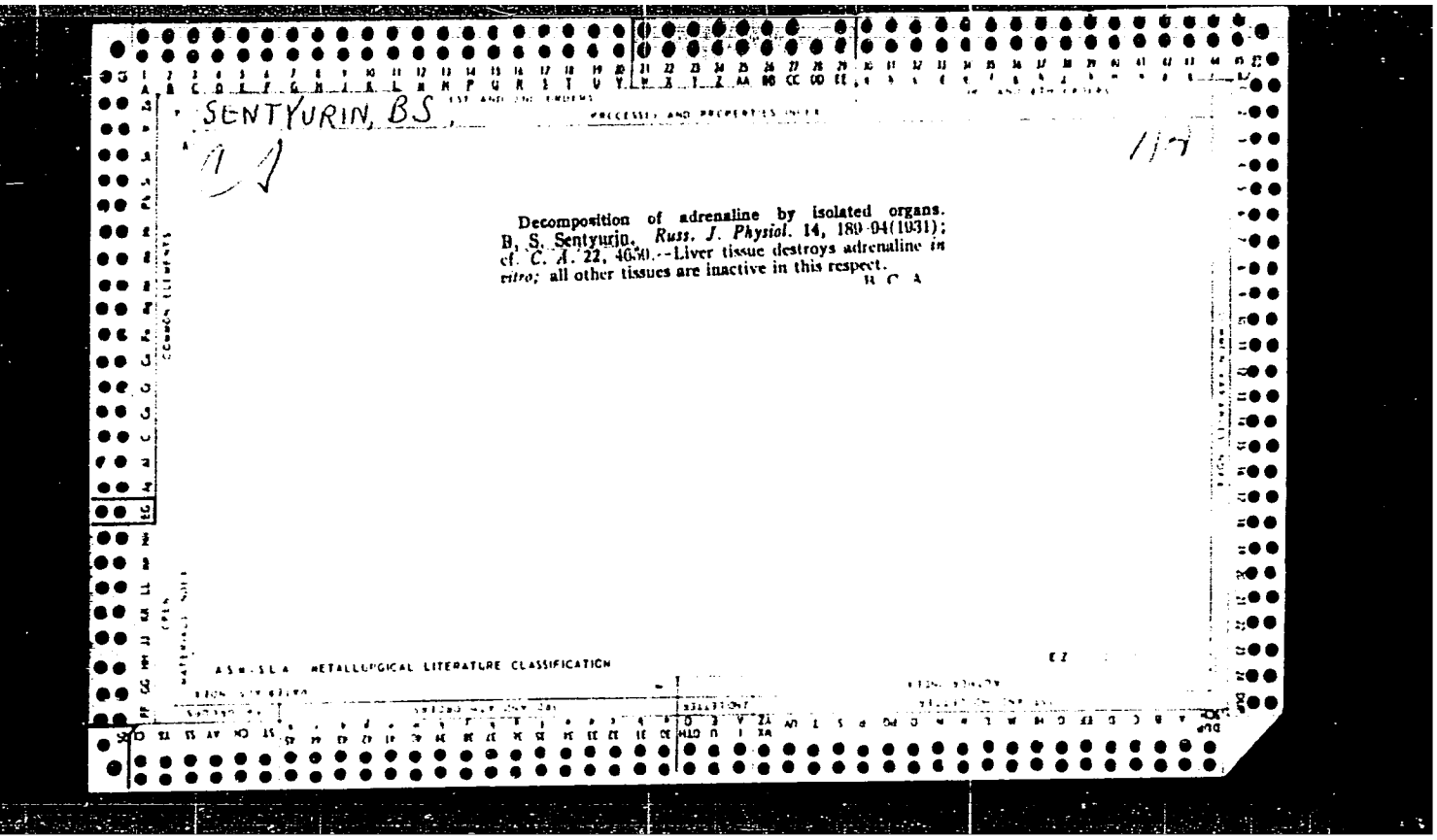
Card 2/2

ACC NR: AP7002727

latter having a three-dimensional solid phase network structure), do not differ significantly in their coefficients of friction and longevity of films. (Structuring is achieved by introducing a surfactant, i.e., a soap, usually lithium stearate on heating, when soaps swell in the ambient oil and produce the three-dimensional network). The high strength limit, especially in structured suspensions, is detrimental for the antiwear effect because of a decrease in the mobility of the lubricant. The colloidal stability determined by centrifuging increases with the concentration of MoS_2 and the viscosity of the system. The structural activity of soaps is stronger in low concentration suspensions than in highly concentrated ones. The addition of MoS_2 increases the antiwear effect of lubricating oils, e.g., the introduction of this solid lubricant into TsIATIM-221 grease increases the longevity of its films by 10—12 times under a 8600 kg/cm^2 load. Structured systems with a low content of MoS_2, such as VNII NP-242, VNII NP-220 and nonstructured high MoS_2-content pastes VNII NP-225 and VNII NP-232 are widely used at the present time. Lubricants with low MoS_2 content are usually applied in rolling friction joints; lubricants with high MoS_2 content are used in gliding friction and in threaded joints. Orig. art. has: 3 tables and 4 figures.

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 003/ ATD PRESS: 5111

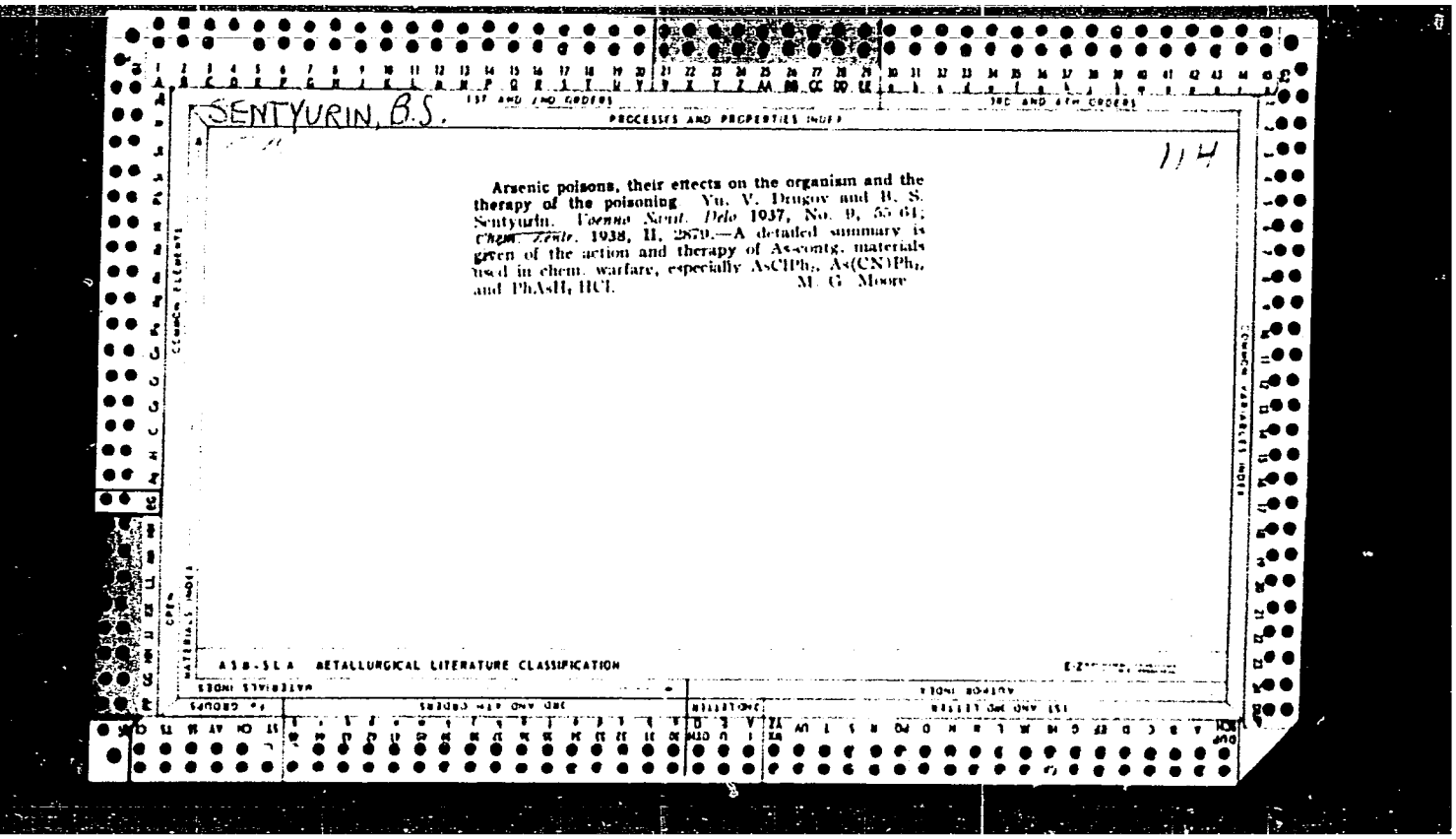
Card 2/2



SENTYURIN, BS

Decomposition of adrenaline by isolated organs. B. S. Sentyurin. *Russ. J. Physiol.* 14, 189-94(1931); cf. *C. A.* 22, 4630.—Liver tissue destroys adrenaline *in vitro*; all other tissues are inactive in this respect. H. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



SENTYURIN, B.S.

PROCESSES AND PROPERTIES INDEX

114

Arsenic poisons, their effects on the organism and the therapy of the poisoning. Yu. V. Drugov and B. S. Sentyurin. *Voenno Sanit. Delo* 1937, No. 9, 55-61; *Chem. Zentr.* 1938, II, 2879.—A detailed summary is given of the action and therapy of As-containg. materials used in chem. warfare, especially $AsCH_3Ph_2$, $As(CN)Ph_2$, and $PhAsH_2 \cdot HCl$.

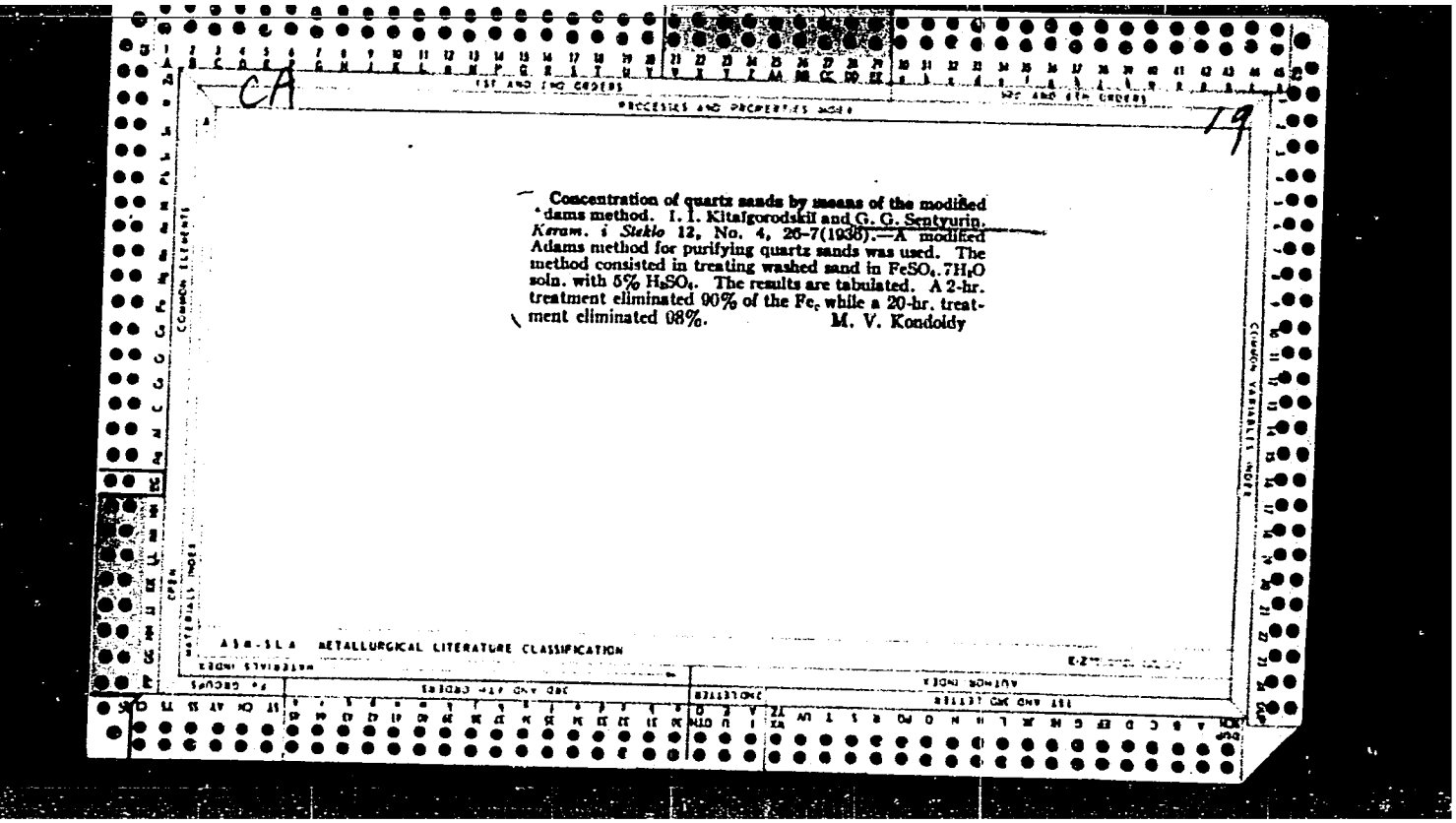
M. G. Moore

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION

SENTYURIN, B.S., professor; PRAVDIN, N.S. professor; MOZGOV, Ye.I., professor; ZAKUTINSKIY, D.I., professor; SANOTSKIY, V.A., professor; DOZORTSEVA, P.M.; NANAYEVA, M.T.; MITSKIS, A.M.; SAMOYLOVA, Z.T.

Pharmacology and Toxicology Section of the Moscow Society of Physiologists, Biochemists and Pharmacologists. Farm.i toks. 16 no.2:54-56 Mr-Ap '53. (MLRA 6:6)

1. VNIKhFI (for Dozortseva). 2. Moskovskaya veterinarnaya akademiya (for Mozgov). 3. Sektsiya farmakologii i toksikologii Moskovskogo obshchestva fiziologov, biokhimikov i farmakologov.
(Pharmacology--Societies) (Physiology--Societies) (Biochemistry--Societies)



CA

19

Concentration of quartz sands by means of the modified Adams method. I. I. Kitaigorodskii and G. G. Sentyurin. *Keram. i Steklo* 12, No. 4, 26-7(1938).—A modified Adams method for purifying quartz sands was used. The method consisted in treating washed sand in $FeSO_4.7H_2O$ soln. with 5% H_2SO_4. The results are tabulated. A 2-hr. treatment eliminated 90% of the Fe, while a 20-hr. treatment eliminated 98%. M. V. Kondoidy

A. C. S.

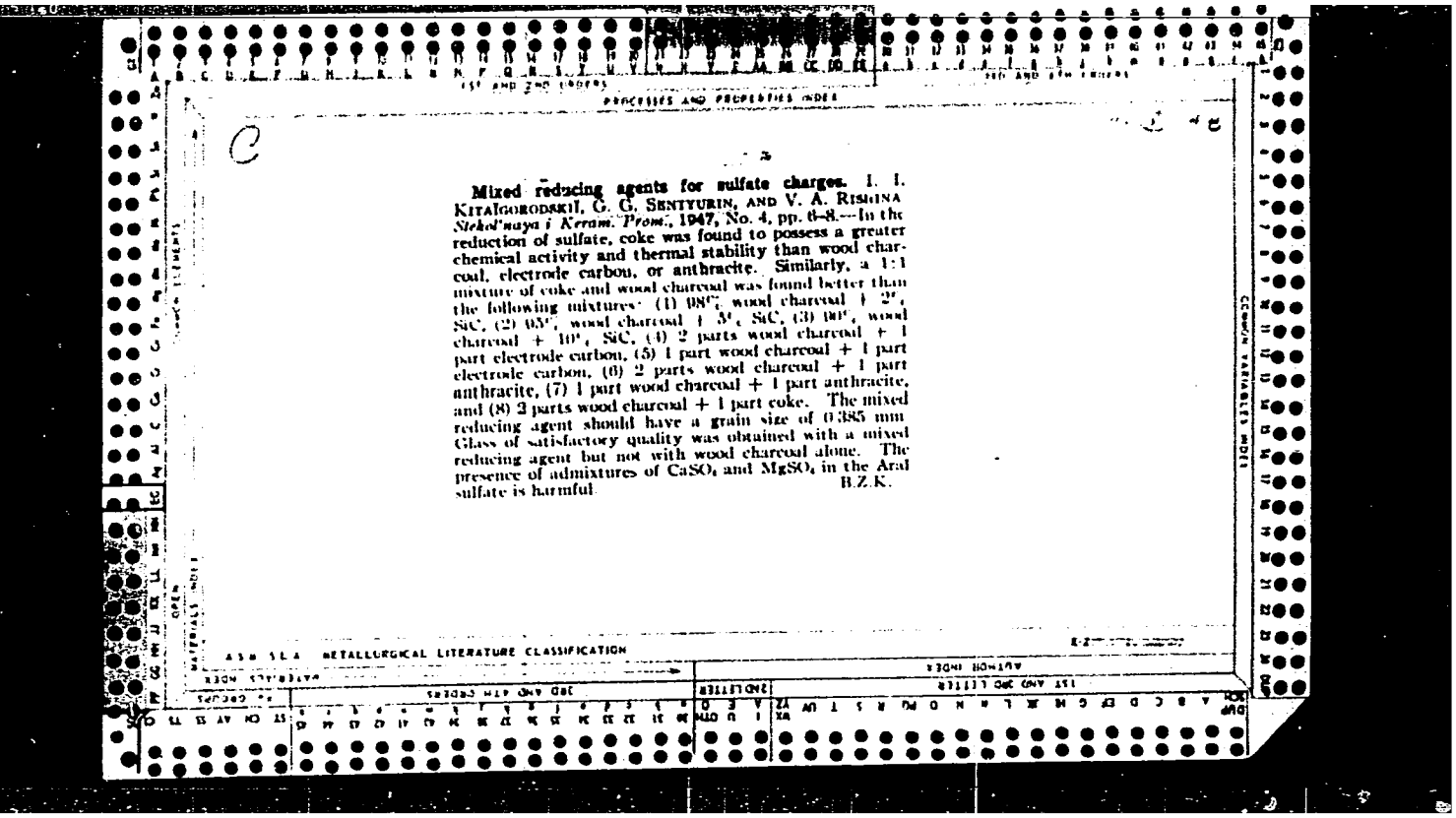
Glass

Facilitating the melting and plaining of Pyrex-type glass. I. I. KITAIGORODSKII, G. G. SAMYGINA, M. L. KIVELNOVICH, AND I. D. TYKACHINSKII. *Steklo i Keram. Prom.*, 1944, No. 1/2, pp. 9-16.—This investigation dealt with the determination of the most suitable plaining agent and with the effect of size distribution of the batch on the rate of melting. Along with the tested composition, a sample of a composition used currently at the plant was run. This sample acted as control sample. The investigated samples were melted in fire-clay crucibles within a kerosene fired furnace. After the charge melted, the kerosene was shut off and the furnace window simultaneously opened. Within 30 min. the temperature of the melt dropped to 680° to 700°; the window was then shut, and the samples were kept in the furnace until the next day. The crucibles were broken, and the glass was divided into two equal parts. On these, the presence of unfused material and the presence and relative quantities of bubbles and striae were determined. Of the tested plaining agents, WO_3, MoO_3, Na_2SO_4, $(NH_4)_2SO_4$, and NH_4Cl had no effect whatever. Mixes containing these ingredients did not differ from those to which no plaining agents were added. Na_2SiF_6 and NH_4NO_3 resulted in samples inferior to those containing no plaining agents. The worst results were obtained with the composition currently used at the plant, containing Na_2SiF_6, Na_2SO_4, NaCl, and As_2O_3. Best results occurred with mixes in which was included As_2O_3 or NaCl. Of these, As_2O_3 is preferable; NaCl caused slight yellowing. NaF did induce some plaining, but not so much as did As_2O_3 or NaCl. Experiments were then carried out to determine the optimum quantity of the plaining agent to be used, in what combinations, if any, and where it should be added—to the mix or the melt. The optimum quantity of As_2O_3 was found to be 0.5% of the batch. Increasing this quantity to 1 or 1.5% did not produce material results. The optimum quantity of NaCl was 0.5%. Increasing this quantity worsened the results. Various combinations of these three agents yielded worse results than when they were used alone. The preferred procedure is to add the entire quantity of the plaining agent to the dry mix. Extensive experiments on the effect of size distribution in a batch showed that the smaller the grain size of the sand and the feldspar, the faster the batch melts. This is particularly pronounced when no plaining agents are used. If 0.5% of As_2O_3 or NaCl is added to the batch, the size does not make a great deal of difference; thus, when either of these compounds is incorporated in the mix, the particle size of the sand and the feldspar may correspond to a size distribution through 1600 meshes per cm.^{2}, i.e., a particle smaller than 0.15 mm. When all of the sand is below 0.06 mm., the glass is colored (greenish yellow to brown). Another series of experiments was carried out to determine the most desirable method of introducing Al_2O_3 into the batch. For this purpose feldspar, alumina containing 91% Al_2O_3, kaolin, and Chasov-Yar clay were tested. The source of Al_2O_3 had no effect on the quality of the glass. The best composition of a Pyrex-type glass, on the basis of these experiments, is sand 78.5, soda 4.0, niter 6.05, boric acid 23.40, feldspar 5.5, and As_2O_3 0.5 kg. The alkali oxides are best introduced as a mixture of soda and niter taken in a ratio of 1:1. The preferred size distribution for the sand and the aluminous material is 0.12- to 0.15-mm. diameter. Such size distribution permits operation at 1480°. M. Ho.

SENTYURIN, G. G.

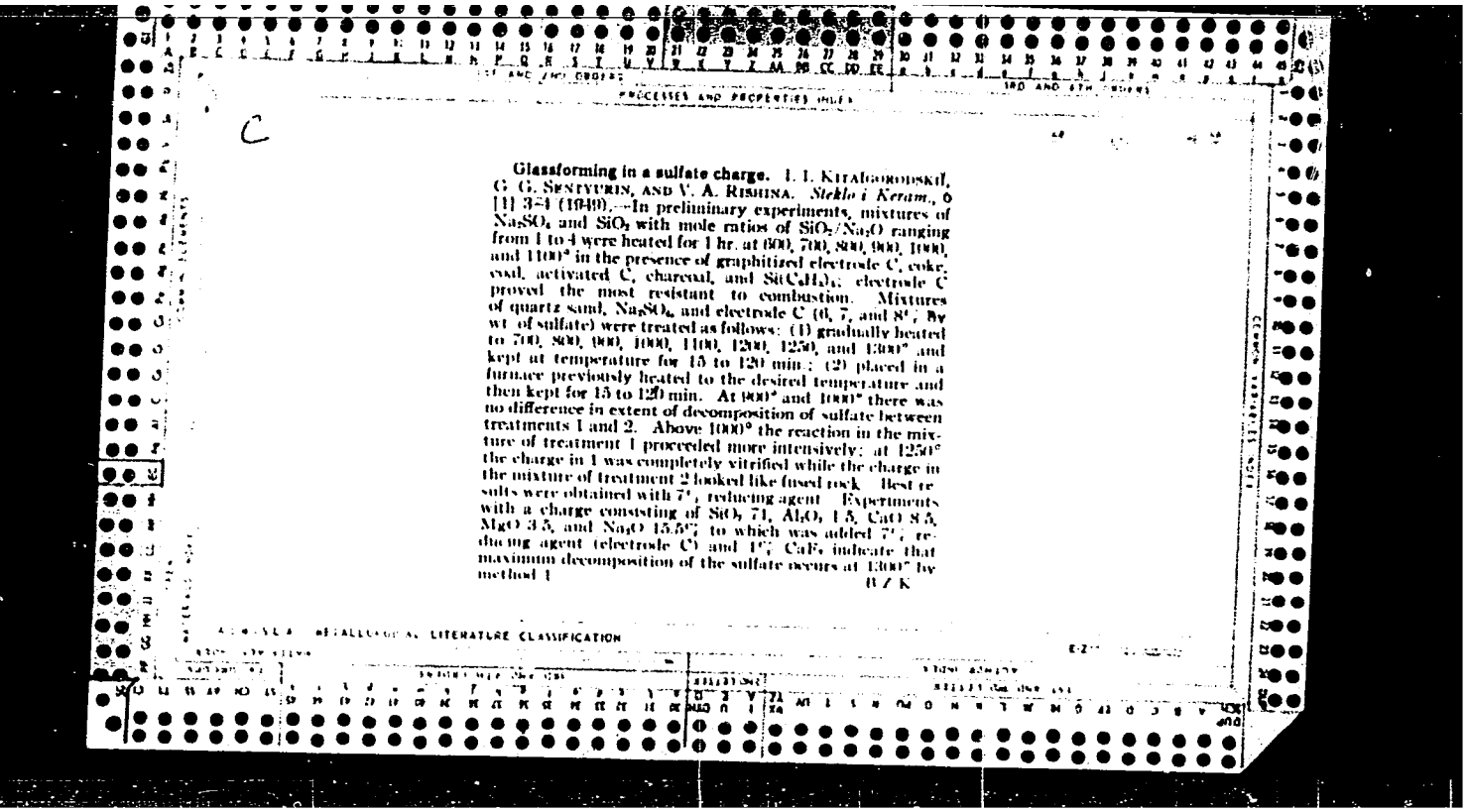
Mateyev, M. A. General course in technology of silicates; textbook. Moskva, Gos. izd-vo stroit. lit-ry, 1945- (Mic 53-322)

Microfilm AC-100



Mixed reducing agents for sulfate charges. I. I. KITAIGORODSKII, G. G. SENTYURIN, AND V. A. RISHINA *Steklo'naya i Keram. Prom.*, 1947, No. 4, pp. 6–8.—In the reduction of sulfate, coke was found to possess a greater chemical activity and thermal stability than wood charcoal, electrode carbon, or anthracite. Similarly, a 1:1 mixture of coke and wood charcoal was found better than the following mixtures: (1) 98%, wood charcoal + 2% SiC, (2) 95%, wood charcoal + 5% SiC, (3) 90%, wood charcoal + 10% SiC, (4) 2 parts wood charcoal + 1 part electrode carbon, (5) 1 part wood charcoal + 1 part electrode carbon, (6) 2 parts wood charcoal + 1 part anthracite, (7) 1 part wood charcoal + 1 part anthracite, and (8) 2 parts wood charcoal + 1 part coke. The mixed reducing agent should have a grain size of 0.385 mm. Glass of satisfactory quality was obtained with a mixed reducing agent but not with wood charcoal alone. The presence of admixtures of $CaSO_4$ and $MgSO_4$ in the Aral sulfate is harmful.

B.Z.K.



C

Glassforming in a sulfate charge. I. I. KITAIGORODSKII, G. G. SENTYURIN, AND V. A. RISHINA. *Steklo i Keram.*, 6 [1] 3-4 (1949).—In preliminary experiments, mixtures of Na_2SO_4 and SiO_2 with mole ratios of SiO_2/Na_2O ranging from 1 to 4 were heated for 1 hr. at 600, 700, 800, 900, 1000, and 1100° in the presence of graphitized electrode C, coke, wood, activated C, charcoal, and $Si(C_2H_5)_4$; electrode C proved the most resistant to combustion. Mixtures of quartz sand, Na_2SO_4, and electrode C (6, 7, and 8%, by wt. of sulfate) were treated as follows: (1) gradually heated to 700, 800, 900, 1000, 1100, 1200, 1250, and 1300° and kept at temperature for 15 to 120 min.; (2) placed in a furnace previously heated to the desired temperature and then kept for 15 to 120 min. At 900° and 1000° there was no difference in extent of decomposition of sulfate between treatments 1 and 2. Above 1000° the reaction in the mixture of treatment 1 proceeded more intensively; at 1250° the charge in 1 was completely vitrified while the charge in the mixture of treatment 2 looked like fused rock. Best results were obtained with 7% reducing agent. Experiments with a charge consisting of SiO_2 71, Al_2O_3 1.5, CaO 8.5, MgO 3.5, and Na_2O 15.5%; to which was added 7% reducing agent (electrode C) and 1% CaF_2 indicate that maximum decomposition of the sulfate occurs at 1300° by method 1.

B Z K

SENTYURIN, G. G.

35333. B liyanie Prodolzhitel'-Nosti Teplovoy Obrabotki Steklomassy Na Sklon- Nost' ee K Kristallizatsii Trudy Mosk. Khim.-Tekhnol. In-Ta Im. Mendeleeva, Vyp. 16, 1949, S. 102-09

SO: Letopis'Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

USSR/Chemistry - Glass Formation Jan '49
Chemistry - Sulfates, Glass Refining by

"Kinetics of Glass Formation in Sulfate Furnace Charges," I. I. Kitaygorodskiy, G. G. Sentyurin, V. A. Rishina, Moscow Chemicotech Inst imeni D. I. Mendeleyev, 3 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 1

PA 26/49T2

Process of glass formation in sulfate furnace charges is complicated by lack of heat resistance in the reducers, which burn out prematurely and are absent at high temperatures when most necessary. Recommends that sulfate charges be supplied

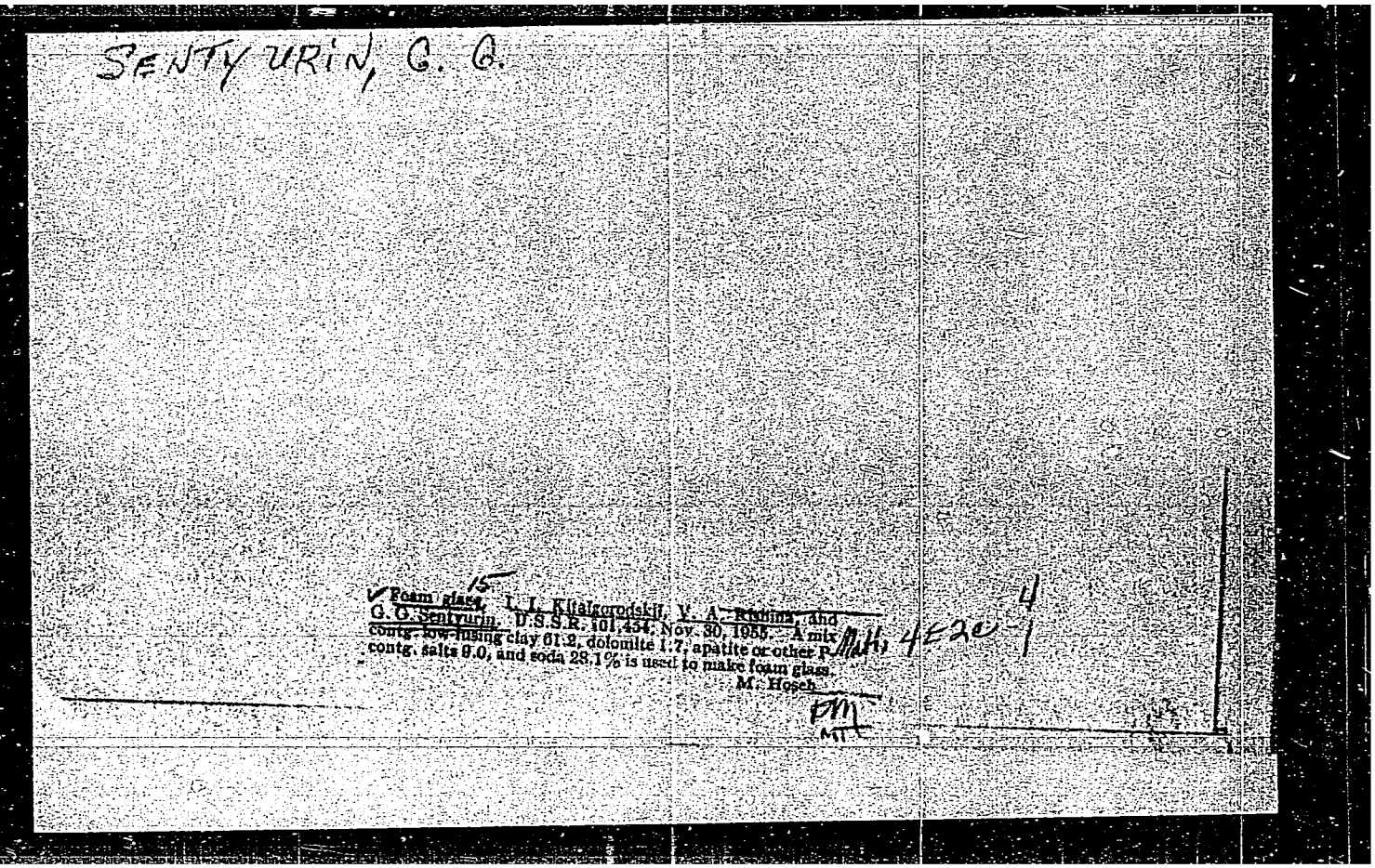
26/49T2

USSR/Chemistry - Glass Formation (Contd) Jan 49

to the glass furnace in a region heated to temperature of not less than 1,350° C. Submitted 6 Nov 48.

26/49T2

SENTYURIN, G. G.



SENTYURIN, G. G.

Foam glass. I. I. Kitaigorodskii, V. A. Rishina, and G. G. Sentyurin. U.S.S.R. 101,434, Nov. 30, 1955. A mix contg. low-fusing clay 61.2, dolomite 1.7, apatite or other P contg. salts 9.0, and soda 28.1% is used to make foam glass. M. Hosch

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PAVLUSHKIN, N.M.; SENTYURIN, G.G.; SIL'VESTROVICH, S.I., kand.tekhn. nauk, nauchnyy red.; GLADYSHEVA, S.A., red.; GILENSON, P.G., tekhn.red.

[Handbook of glass technology] Praktikum po tekhnologii stekla. Moskva, Gos.izd-vo lit-ry po stroit.materialam, 1957. 354 p. (MIRA 11:1)

(Glass)

KITAYGORODSKIY, I.I.; RISHINA, V.A.; SENTYURIN, G.G.

Production of foam glass from low-melting clays. Trudy MKHTI no.24:318-323 '57. (MIRA 11:6)
(Glass, Cellular)

SOV/72-58-1o-5/18

AUTHORS: Kitaygorodskiy, I. I., Professor, Matveyev, M. A., Sentyurin, G. G., Yagodina, A. T.

TITLE: Binder for Building Material Made From "Foam-Glass" (Vyazhushchiy material dlya stroitel'nykh izdeliy iz penostekla)

PERIODICAL: Steklo i keramika, 1958, Nr 1o, pp 22-25 (USSR)

ABSTRACT: Investigations of various binders for "foam-glass" on the basis of liquid glass and caustic magnesite, respectively, as well as of an aqueous solution of magnesium chloride were carried out. Table 1 shows the composition of binders on the basis of liquid glass and table 2 that of those on the basis of caustic magnesite. From among the properties of the binders the setting time, mechanic stability, water tightness, and the coefficient of thermal expansion (by means of the dilatometer according to Botvinkin-Solomin) and the adhesion were determined. The characteristics of properties of the investigated binders can be seen from tables 3 and 4. The binders on the basis of liquid glass proved to be insufficiently watertight. From among the mag-

Card 1/2

nesite binders, those with a content of 45 % caustic magnesite, 25 % marshallite, 4,5 % asbestos, 25 % talc gave satisfactory results. There are 4 tables.

SENTYURIN, G.G.

Making various kinds of foam glass. Silikaty no.2:83-91 '59. (MIRA 13:6)
(Glass, Cellular)

PAVLUSHKIN, N.M.; SENTYURIN, G.G.

I.I. Kitaigorodskii's seventieth anniversary. Trudy MKHTI no.27: 3-5 '59. (MIRA 15:6)
(Kitaigorodskii, Isaak Il'ich, 1888-)

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S/081/61/000/019/050/085
B110/B101

15.2620

AUTHORS: Kitaygorodskiy, I. I., Sentyurin, G. G., Yegorova, L. S.

TITLE: Synthesis of heat-resistant glasses

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 309, abstract 19K256 (Sb. nauchn. tr. Belorussk. politekhn. in-t, no. 86, 1960, 38-41)

TEXT: Heat-resistant glasses were synthesized (the composition is mentioned) on the basis of the system $CaO - Al_2O_3 - SiO_2$. The ternary eutectic having a melting point of 1170°C was used as initial substance. The chemical composition of the mixture was (in % by weight): SiO_2 = 62; CaO = 23.3; Al_2O_3 = 14.7. A set of compositions was elaborated including the oxides permitting an increase in the heat resistance of the glass. The physicochemical properties of the glasses are indicated, that are recommended to manufacture heat-resistant tubes, clinkers, laboratory vessels, electro-vacuum retorts, and further products. [Abstracter's note: Complete translation.]

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KITAYGORODSKIY, I.I., doktor tekhn. nauk, prof.; KACHALOV, N.N., prof.; VARGIN, V.V., doktor tekhn. nauk, prof.; YEVSTROP'YEV, K.S., doktor tekhn. nauk, prof.; GINZBURG, D.B., doktor tekhn. nauk, prof.; ASLANOVA, M.S., doktor tekhn. nauk, prof.; GURFINKEL', I.Ye., inzh.; ZAK, A.P., kand. tekhn. nauk; KOTLYAR, A.Ye., inzh.; PAVLUSHKIN, N.M., doktor tekhn. nauk, prof.; SENTYURIN, G.G., kand. tekhn. nauk; SIL'VESTROVICH, S.I., kand. tekhn. nauk, dots.; SOLINOV, F.G., kand. tekhn. nauk; SOLOMIN, N.V., doktor tekhn. nauk, prof.; TEMKIN, B.S., kand. tekhn. nauk; GLADYSHEVA, S.A., red. izd-va; TEMKINA, Ye.L., tekhn. red.

[Glass technology] Tekhnologiia stekla. Izd.3., perer. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 622 p. (MIRA 14:10)

1. Chlen-korrespondent AN SSSR (for Kachalov).
(Glass manufacture)

OGIBALOV, P.M.; SENTYURIN, G.G.

Aging of industrial lubricants undergoing compression by high pressure of short durati n. Izv. vys. ucheb. zav.; neft' i gaz 4 no.2:65-67 '61. (MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Lubrication and lubricants)

31612
S/063/61/006/006/005/006
A057/A126

15.2510

AUTHOR: Sentyurin, G. G., Candidate of Technical Sciences

TITLE: On the structure of glass and its thermal past

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D. I. Mendeleyeva, v. 6, no. 6, 1961, 643 - 648

TEXT: The author gives some basic aspects on the vitreous state of a substance by comparing properties of vitreous materials with those of liquids and of crystalline substances, respectively. Also some ideas were presented on the structure of glass, and on the effect of the thermal past, i.e., thermal treatment of the glass, on some of its special uses. The present discussion is of importance since investigations of the vitreous state belong to the most complicated problems of modern physics, and the various existing hypotheses are just qualitative, containing many contradictions. The author states that the vitreous state has no separate region. The vitrification process practically never attains phase equilibrium, thus the phase rule is not valid for vitreous materials. As for thermodynamics glass is in an instable (metastable) equilibrium, since it contains a surplus of potential energy. Most important for investigations of the glass structure

Card 1/5

On the structure of glass and its thermal past

is the so-called "abnormal temperature interval" or "final structuration of glass" in which physical properties of vitreous materials change in a special manner. The abnormal interval lies in the range of supercooled temperature. Another characteristic of the vitreous state is the lower density of the glass as compared to the crystalline state. Crystalline quartz has a density of 2.651 g/cm^3 and quartz glass of 2.21 g/cm^3. The vitreous state has a greater potential energy, thus a transition from the metastable vitreous state to the crystalline state is exothermic. This is proved also by experimental data published by P. P. Lazarev [Ref. 6: Sochineniya (Papers), v. II, Izd. AN SSSR, 1950, p. 6]. Discussing the structure of glass the present author takes as an example the structure of glass No. 23 V. Ye. Tishchenko (Fig. 3) to prove the validity of W. Sachariason's hypothesis [Ref. 6a: J. Am. Chem. Soc., 54, 3841 (1937)] on the existence of a "distant order" or "near order" respectively in the structure of silicate glass. In Fig. 3 the structure of a single glass layer in planar view (a) and in three-dimensional view (b) is shown. It can be assumed that glasses are easily stretched at a corresponding temperature due to a bond which is weaker between different structure layers than in each layer. It is also seen from Fig. 3 that two conjugated tetrahedrons (repeating 14 times) have free valencies which are the link between the given and two adjoining analogous layers. To the right and left of the central

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A057/A126

On the structure of glass and its thermal past

part of the structure model are the silicon, boron and aluminum tetrahedrons. The latter two have weaker inner bonds than in the Si-O tetrahedron. Still weaker are the bonds in the fragment Al-O-Ca-O-Na. Weakest are the bonds of the type B-O-Na and Si-O-K. The position of oxides, and distribution of bonds between the tetrahedrons, discussed already by I. I. Kitaygorodskiy, and G. G. Sentyurin [Ref. 14: Sbornik trudov po khimii i tekhnologii silikatov (Collection of papers on chemistry and technology of silicates), Promstroyizdat, 1957], is proved by data on gas-permeability and density of glasses containing SiO_2, B_2O_3, Na_2O, K_2O, and BaO, respectively. Alkali, and some alkali earth oxides are placed in "cavities" between the tetrahedrons of the structure of an aperiodic glass lattice. Another important fact is that the link between the single tetrahedrons is effected in many silicates and glasses at the top and not at the edge, or face. In relation to the effect of the thermal past of a glass on its properties the present author discusses results obtained by M. A. Bezborodov [Ref. 1: Stekloobraznoye sostoyaniye (Vitreous state), Izd. AN SSSR, 1960, p. 59], N. N. Balenkov, and Ye. A. Poray-Koshits [Ref. 12: Collection of papers edited by I. V. Grebenshchikov, "Fiziko-khimicheskiye svoystva troynoy systemy: Na_2O-PbO-SiO_2" ("Physico-chemical properties of the ternary systems:..."), Izd. AN SSSR, 1949], and himself in a prior paper [Ref. 13: Trudy MKhTI im. D. I. Mendeleyeva, 1947] stating the rule:

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A057/A126

On the structure of glass and its thermal past

'A glass mix welded, clarified, and ready for further processing should not remain in the glass furnace for a longer time because of a possible loss in quality'. To demonstrate the effect of the thermal past on glass property the effect of an artificial aging of thermometer glass is shown on experimental data. The tabulated data show a difference in the process of artificial aging, indicating glass No.21 as being superior. It can also be seen from the shift of the dilatometric curve whether an increase or decrease in heat resistance of the tested glass occurs. There are 7 figures, 1 table, and 16 references: 13 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: W. Sachariasen, J. Am. Chem. Soc., 54, 3841 (1937).

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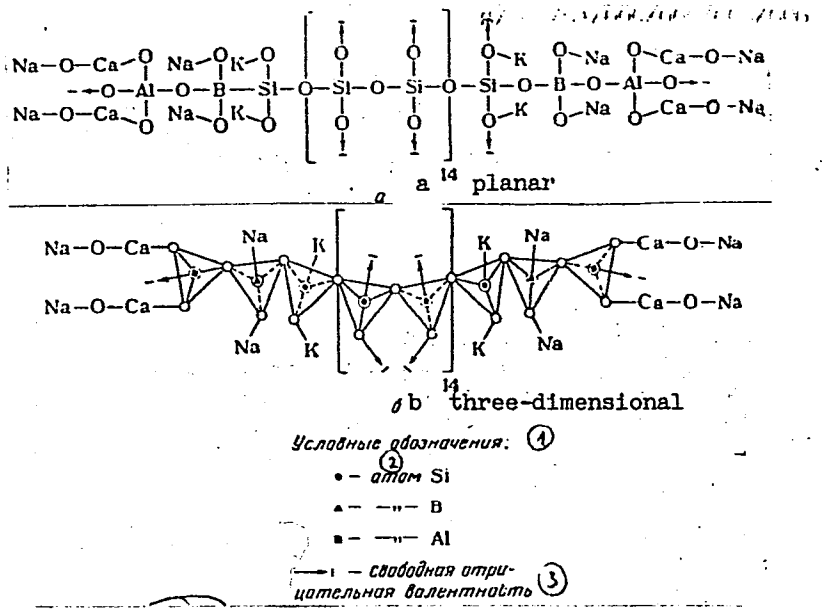
On the structure of glass and its thermal past



a 14 planar

б b 14 three-dimensional

Fig. 3. Diagram of a structure model of a single glass layer. Legend: (1) conventional signs, (2) atom, (3) free negative valency

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BEREZHNOY, A.I.; BRODSKIY, Yu.A.; BRONSHTEYN, Z.I.; VEYNBERG, K.L.; GALDINA, N.M.; GLETMAN, B.A.; GINZBURG, D.B.; GUTOP, V.G.; GUREVICH, L.R.; DAUVAL'TER, A.N.; YEGOROVA, L.S.; KOTLYAR, A.Ye.; KUZYAK, V.A.; MAKAROV, A.V.; POLLYAK , V.V.; POPOVA, E.M.; PRYANISHNIKOV, V.P.; SENTYURIN, G.G.; SIL'VESTROVICH, S.I., kand. tekhn. nauk, dots.; SOLOMIN, N.V.; TEMKIN, B.S.; TYKACHINSKIY, I.D.; SHIGAYEVA, V.F.; SHLAIN, I.B.; EL'KIND, G.A.[deceased]; KITAIGORODSKIY, I.I., zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof., red.; GOMOZOVA, N.A., red.izd-va; KOMAROVSKAYA, L.A., tekhn. red.

[Handbook on glass manufacture] Spravochnik po proizvodstvu stekla. [By] A.I.Berezhnoi i dr. Pod red. I.I.Kitaigorodskogo i S.I.Sil'vestrovicha. Moskva, Gosstroiizdat. Vol.2. 1963. 815 p. (MIRA 16:12)

(Glass manufacture)

L 25793-65 EWP(e)/EWT(m)/EWP(b) Pq-4 WH

ACCESSION NR: AR4040351 S/0081/64/000/006/M016/M016

SOURCE: Ref. zh. Khimiya, Abs. 6M117

AUTHOR: Sarkisov, P. D.; Kitaygorodskiy, I. I.; Sentyurin, G. G.

TITLE: A study of new compositions of plate glass with improved thermophysical properties

CITED SOURCE: Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, vyp. 41, 1963, 173-179

TOPIC TAGS: glass, plate glass, glass chemical stability, glass thermal stability, glass drawing, glass mechanical property, magnesium aluminosilicate

TRANSLATION: The purpose of this study was to obtain new glass compositions, the technological properties of which would be suitable for working on machines for the vertical drawing out of glass, but with improved thermophysical properties: i.e. with high thermal and chemical stability. During the formulation of new glasses, the authors attempted to decrease the content of alkaline oxides. The cooking conditions are reported, along with the results of studies on the properties of the glasses: their crystallizability, chemical stability, thermal

Card 1/2

L 25793-65
ACCESSION NR: AR4040351

expansion, thermal stability, microscopic hardness and viscosity. The results of studies on the crystallizing and physicochemical properties of glasses revealed a group of optimal compositions having relatively high thermophysical properties and suitable, according to the technological indices, for the production of plate glass by the method of vertical drawing. Glasses No. 28 and No. 29, having the following compositions in %: SiO_2 75 and 75, Al_2O_3 3 and 3, CaO 6 and 5.5, MgO 4 and 5, Na_2O 11 and 10.5, SrO 1 and 1, respectively, show high thermal and chemical stability and can be recommended for use in transportation and in chemical laboratory glassware. I. Mikhaylova

SUB CODE: MT ENCL: 00

Card 2/2

L 55203-65 EWT(m)/EWP(e)/EWP(1)/EWP(b) Pq-4 WH

ACCESSION NR: AR5012172 UR/0081/65/000/005/B064/B064

19
B

SOURCE: Ref. zh. Khimiya, Abs. 5B425

AUTHOR: Berenshteyn, A. V.; Sentyurin, G.G.

TITLE: Producing transparent and quenched glass in a SiO_2-ZrO_2-Na_2O system

CITED SOURCE: Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, vyp. 46, 1964, 70-74

TOPIC TAGS: glass, zirconium, zirconium compound

TRANSLATION: The zone of glass formation and the zone of compositions possessing a considerable tendency toward crystallization in the SiO_2-ZrO_2-Na_2O system were studied. Transparent zirconium glasses contain 45-75% SiO_2, 12-30% Na_2O and up to 25% ZrO_2; the most resistant to crystallization are glasses with an O:Si ratio equal to or less than 2.4 and containing up to 20% ZrO_2. Polyzirconium silicate glasses (greater than 20% ZrO_2) have a greater tendency toward crystallization when the O:Si ratio is equal to 2.5-3. Transparent polyzirconium glasses in the

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L 55203-65

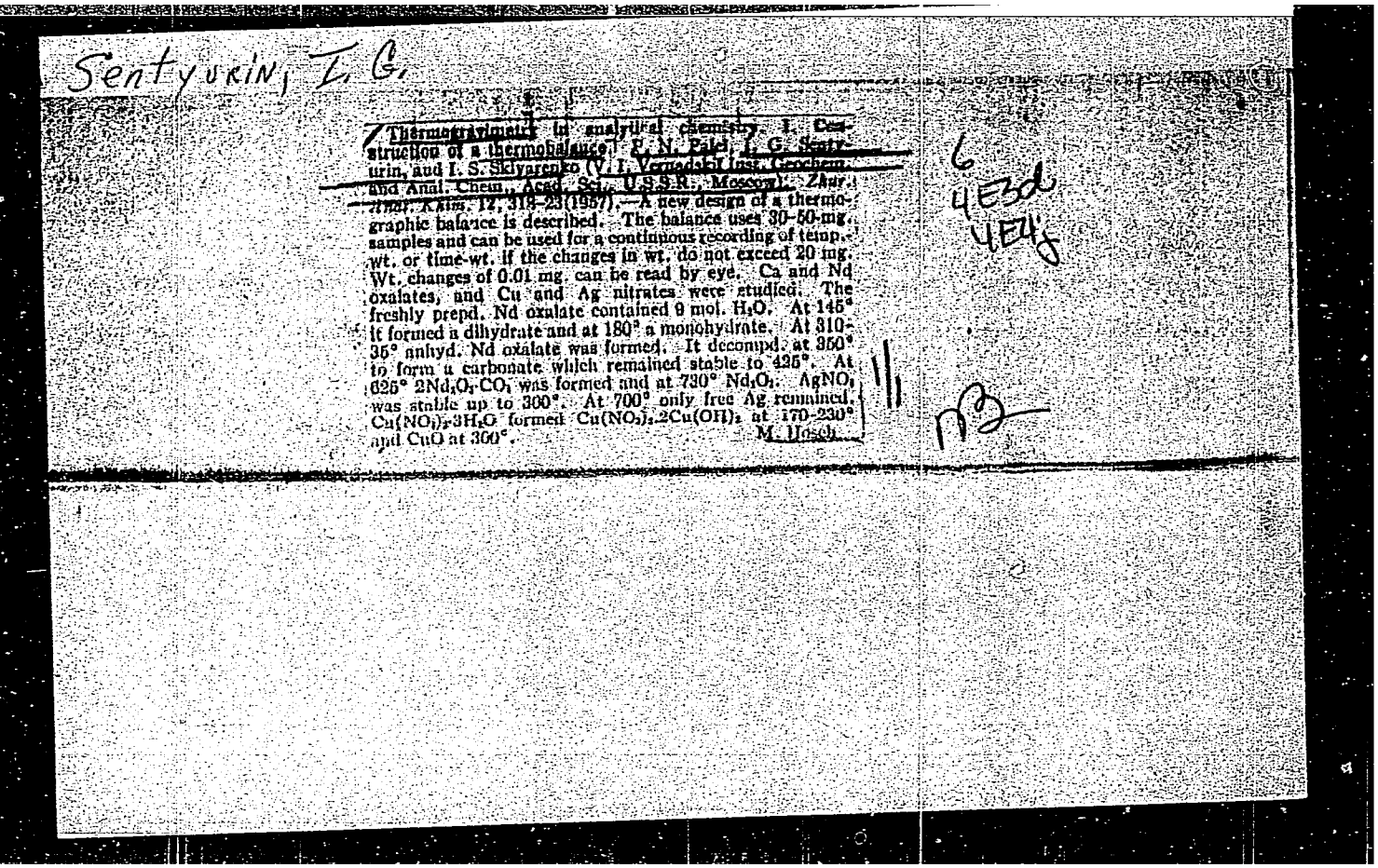
ACCESSION NR: AR5012172

SiO_2-ZrO_2-Na_2O system are produced by the stabilizing action of ZrO_2 which strengthens the structural bonds of the glass lattice. The addition of a large amount of Na_2O does not reduce the chemical stability of the glass. The process of crystallization is accompanied by the formation of silicates; however, the degree of crystallization of the products is not sufficiently high, which apparently is due to the fact that ZrO_2 is not connected structurally with the other components of glass. The zirconium-bearing crystallized products have high chemical and thermochemical resistance and increased mechanical strength. These materials can be used for making acid-resistant plates and chemical apparatus. The search for new and more effective mineralizers will determine the course of future research on synthesizing materials containing zirconium dioxide (authors' abstract).

SUB CODE: GC, MT

ENCL: 00

Card 2/2



Sentyurin, I. G.

Thermogravimetry in analytical chemistry. I. Construction of a thermobalance. P. N. Palei, I. G. Sentyurin, and I. S. Sklyarenko (V. I. Vernadskii Inst. Geochem. and Anal. Chem., Acad. Sci., U.S.S.R., Moscow). Zhur. Analit. Khim. 12, 318-23(1957).—A new design of a thermographic balance is described. The balance uses 30–50-mg. samples and can be used for a continuous recording of temp.-wt. or time-wt. if the changes in wt. do not exceed 20 mg. Wt. changes of 0.01 mg. can be read by eye. Ca and Nd oxalates, and Cu and Ag nitrates were studied. The freshly prepd. Nd oxalate contained 9 mol. H_2O. At 145° it formed a dihydrate and at 180° a monohydrate. At 310–35° anhyd. Nd oxalate was formed. It decompd. at 350° to form a carbonate which remained stable to 425°. At 625° $2Nd_2O_3 \cdot CO_2$ was formed and at 730° Nd_2O_3. $AgNO_3$ was stable up to 300°. At 700° only free Ag remained. $Cu(NO_3)_2 \cdot 3H_2O$ formed $Cu(NO_3)_2 \cdot 2Cu(OH)_2$ at 170–230° and CuO at 360°.

M. Hosch

6
4E3d
4E4g

S/075/62/017/004/002/006
I017/I242

AUTHOR: Sentyurina, N.N.

TITLE: Photometric determination of microgram amounts of yttrium, lanthanum, and scandium in Y_2O_3-La_2O_3, Y_2O_3-Sc_2O_3, La_2O_3-Sc_2O_3 mixtures

PERIODICAL: Zhurnal analiticheskoy khimi, v.17, no.4, 1962, 442-446

TEXT: The photometric determination of the three elements with Thoron II is proposed without previous separation. The method is based on the different stability of the colored syste- matic study of the properties of these complexes at different pH's, concentrations, molar ratios and in the presence of different

Card 1/2

S/075/62/017/004/002/006
I017/I242

Photometric determination...

amounts of citric acid was carried out. The ranges over which Beer's law is obeyed were determined. A photocolorimeter with maximal transmittance at 572 mμ, containing a green filter and a saturated solution of potassium dichromate in a 10 mm cuvette was used. For 40-80 % of oxides the error of determination is ± 10%. There are 5 figures and 2 tables.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR
(Institute of Radio and Electronics, AS USSR)
Moscow

SUBMITTED: May 8, 1961

Card 2/2

SENTYURINA, N.N.; MAKAROVA, N.A.; GERASIMOVA, E.A.

Analysis of boron phosphide. Zav. lab. 29 no.9:1057 '63.
(MIRA 17:1)

1. Institut radiotekhniki i elektroniki AN SSSR.

L 36122-66 EWT(m)/EWP(t)/ETI IJP(c) WW/JD/JG/GD

ACC NR: AT6014761 SOURCE CODE: UR/0000/65/000/000/0118/0119

AUTHORS: Kurganov, G. B.; Baranov, I. A. (Candidate of technical sciences); Karasik, V. R.; Sviridonov, M. N.; Shmulevich, R. S.; Novokreshchenova, V. B.; Sentyurina, N.N.

ORG: none

TITLE: Device for investigating the critical current in superconductors and its application for studying the effect of iron impurity on the superconducting properties of niobium-zirconium alloy

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. [n.d.], 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 118-119

TOPIC TAGS: superconductivity, critical magnetic field, superconducting alloy, niobium alloy, zirconium containing alloy, iron containing alloy, solenoid, physics laboratory instrument

ABSTRACT: A device is described for measuring the critical current of short wire samples as a function of the external transverse magnetic field (range 0--40 koe) (see Fig. 1). The magnetic field is created by a solenoid with windings of niobium-zirconium wire, whose construction was described in the preceding article (V. R. Karasik, G. B. Kurganov, V. G. Yershov, I. Yu. Shebalin, B. D. Kopylovskiy, and V. S. Ivanov. Present compilation, p. 101). The device was used for investigating the properties of 0.2-mm diameter wire of Nb - 26% Zr alloy alloyed with iron (0.5, 0.4,

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L 36122-66

ACC NR: AT6014761

2

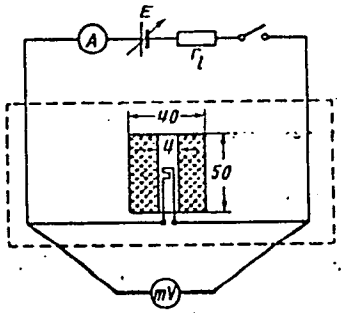

Fig. 1. Schematic of device for investigating the critical current in superconductors. Dotted line indicates volume at T = 4.2K, cross-hatched area indicates solenoid creating magnetic field (dimensions in mm).

0.2, and 0.008% Fe). In general, an increase in Fe content decreased the magnitudes of both the critical current and the critical field. The authors thank B. M. Vul, corresponding member AN SSSR, and M. B. Golant, doctor of technical sciences, for interest in the work and valuable advice. Orig. art. has: 2 diagrams.

SUB CODE: 20,09/SUBM DATE: 23Dec65/ ORIG REF: 001

Card 2/2

L 57564-65 EWT(l)/EPA(s)-2/EWT(m)/EEC(t)/T/EWP(t)/EWP(b)/EWA(c) Pt-7/Pl-4 69
IJP(c) JD/GG

ACCESSION NR: AP5016138 UR/0048/65/029/006/0994/0998

AUTHOR: Bogdanov,S.V.; Kiseleva,K.V.; Matsonashvili,B.N.; Rassushin, V.A.; Sentyurina,N.N.

TITLE: Effect of doping with iron on some physical properties of barium titanate single crystals /Report, 4th All-Union Conference on Ferroelectricity held in Rostov-on-the-Don 12-18 Sept 1964/

SOURCE: AN SSSR.Izvestiya.Ser.fizicheskaya, v.29, no.6, 1965, 994-998

TOPIC TAGS: ferroelectric crystal, barium titanate, doping, iron, crystal structure, phase transition, dielectric constant, electric conductivity, optic absorption

ABSTRACT: The authors have measured the dielectric constant, electrical conductivity and optical transmission of $BaTiO_3$ single crystals containing up to 6 at.% Fe and have investigated the structure of the crystals by x-ray diffraction. At room temperature the structure of crystals containing from 0.48 to 2.6 at.% Fe was tetragonal; crystals containing more than 2.6 at.% Fe were cubic and their lat-

Card 1/3

tice constants were independent of the Fe content. When the temperature was reduced, the (431) reflections from crystals that were cubic at room temperature became broader, while the (222) reflections did not. This broadening was maximum at 243°K, and at 77°K the width of the (431) reflections was practically the same as at room temperature. It is concluded that the structure is tetragonal at 243°K and that a phase transition occurs between 243 and 77°K. The dielectric constants were measured at temperatures from 100 to 530°K. It was found that the Curie point is displaced toward lower temperatures with increasing Fe content. The authors also assert that the dielectric constant maximum corresponding to the 2·m → 3·m transition is displaced toward higher temperatures. Electrical conductivities were measured at temperatures from 100 to 530°K. The plots of the logarithm of the conductivity against the reciprocal of the temperature were straight lines for crystals containing 2.6 at.% or more of Fe and were broken lines for crystals containing 1.84 at.% or less. These curves are analyzed and it is concluded that the Fe impurity atoms form acceptor levels with an ionization energy of 1.5 eV. Optical transmission measurements at

L 57564-65

ACCESSION NR: AP5016138

wavelengths from 0.4 to 2.0 micron showed that the presence of Fe shifts the absorption edge toward longer wavelengths. Three absorption maxima were observed at photon energies of 1.8, 1.5 and 1.1 eV. The 1.8 eV absorption corresponds to ionization of F centers and the 1.5 eV absorption confirms the presence of 1.5 eV acceptor centers. The 1.1 eV absorption is not understood; it is suggested that it may be due to an intra-F center transition. Orig.art.has: 7 formulas and 4 figures.

ASSOCIATION: Fizicheskiy institut im.P.N.Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences of the SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: SS, IC

NR REF SOV: 006 OTHER: 016

Card 3/3

SENTYURINA-BEKLESHOVA, T.S., (Leningrad)

Pathogenetic justification for a combined sulfanilamide and nicotinic acid treatment of acute bacillary dysentery. Klin. med. 33 no.5:57-61 My '55. (MLRA 8:9)

1. Iz kliniki infektsionnykh bolezney (dir.prof. P.A. Alisov) Voyenno-morskoy meditsinskoy akademii.

(DYSENTERY, BACILLARY, ther.
sulfanilamide & nicotinic acid)
(SULFANILAMIDE, ther.use
dysentery, bacillary, with nicotinic acid)
(NICOTINIC ACID, ther.use
dysentery, bacillary, withsulfanilamide)

SENTYURINA-BEKLESHOVA, T.S.

SENTYURINA-BEKLESHOVA, T.S.; KHANINA, K.P. (Leningrad)

State of plasma proteins in dysentery patients treated with sulfanilamides. Klin.med. 35 [i.e.34] no.1 Supplement:30-31 Ja '57. (MIRA 11:2)

1. Iz kliniki infektsionnykh bolezney (dir. - prof. P.A.Alisov) Voyenno-morskoy meditsinskoy akademii.
(BLOOD PROTEINS) (DYSENTERY) (SULFANILAMIDE)

USSR/General Problems of Pathology- The Pathophysiology of the Infectious Process. U

Abs Jour : Ref Zhur Biol., No 1, 1959, 4115

Author : Sentyurina Bekleshova, T.S.

Inst : Military Medical Academy

Title : The Functional Status of the Stomach in Patients with Acute Dysentery

Orig Pub : Tr. Voyen. - med. akad., 1957, 72, 70-76.

Abstract : No abstract.

Card 1/1

SENUK, D.P.

Pressure distribution in a volumetric model of a chamber-and-pillar mining system. Zap.LGI 44 no.1:48-58 '61. (MIRA 14:10)
(Rock pressure) (Photoelasticity)

S/081/62/000/003/081/090
B160/B101

AUTHORS: Zimina, Ye. A., Senuk, D. P.

TITLE: Relationship of optical and mechanical properties of ED-6 epoxy resinbase materials to composition and production techniques

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1962, 563, abstract 3P40 (Zap. Leningr. gorn. in-ta, v. 44, no. 1, 1961, 59-63)

TEXT: A study is made of the optical and mechanical properties of ЭД-6 (ED-6) epoxy resin-base materials used as models for studying the distribution of stresses occuring during use in relation to their composition and production techniques. The optical constant $\sigma_0^{1.0}$, Young's modulus E, Poisson's ratio μ and the quality factor $K = E/\sigma_0^{1.0} \cdot 10^{-3}$ were determined at $\sim 20^{\circ}$ and "freezing" point. It was established that there is little change in the modulus of elasticity at different percentage ratios of ED-6 resin and hardener (70:30, 100:30 and 100:20) but there is a change by a factor of 1.5-2 at "freezing" point; it was also established that the

Card 1/2

Relationship of optical and...

modulus of elasticity of ED-6 resin-base optically active materials can be varied by a factor of 2-12 by changing the quantity ratio of all the material's components. The introduction of a plasticizer - dibutyl phthalate - at the rate of 1, 2, 3, 5, 7 and 10% of the weight of the resin at the optimum resin/hardener ratio of 100:30 changes E by a factor of 2-12 at "freezing" point (from 170-200 to 20 kg/cm^2); there is little change in $\sigma_0^{1.0}$. An increase in the plasticizer's percentage content in the resin leads to a certain reduction in the material's quality factor. [Abstracter's note: Complete translation.]

Card 2/2

SENUK, V., inzh.; KOSTYUK, G.I., inzh.

Effect of certain factors on the quality of the shattering of rocks crushed in a "press". Izv.vys.ucheb.zav.; gor. zhur. 6 no. 12:93-96 '63. (MIRA 17:5)

1.Institut gornogo dela Ural'skogo filiala AN SSSR (for Senuk). 2. Shakhta Ekspluatatsionnaya Vysokogorskogo rudoupravleniya (for Kostyuk). Rekomendovana kafedroy razrabotki rudnykh mestorozhdeniy Sverdlovskogo gornogo instituta.

SENUK, V.; MOZZHEGOROV, A.S.

Laboratory investigation of the breaking of rock in a compressed medium. Trudy Inst.gor.dela UFAN SSSR no.7:55-60 '63. (MIRA 17:3)

TSIRLIN, B., inzhener; SENYAGIN, Yu.; VOL'SKAYA, L., inzhener.

Testing temperature control valves. Khol.tekh.33 no.1:16-21 Ja-Mr '56. (MLRA 9:7)
(Refrigeration and refrigerating machinery--Testing)

SENYAGIN, Yu., inzhener.

Fitting of a temperature control valve. Khol.tekh.33 no.2:67-68 Ap-Je '56. (Thermostat) (MLRA 9:9)

LIFSHITS, G.; SENYAGIN, Yu.

Automatic control of the supply of ammonia to banks of evaporating chambers at Moscow Cold Storage Warehouse No. 2. Khol. tekh. 37 no. 6:48-50 N-D '60. (MIRA 13:12)
(Moscow--Cold storage warehouses)

[redacted], V. I., Cand Tech Sci — (diss) "Investigation of steel radiators and certain other parts of the cooling system for the engine of the series ChTZ tractor," Leningrad, 1960, 22 pp, 200 cop (Leningrad Agricultural Institute) (KL, 43-60, 118)

L 23451-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) JD

ACCESSION NR: AR5000900 S/0273/64/000/010/0012/0012

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya. Otd. vyp., Abs. 10.39.77

AUTHOR: Kharitonchik, Ye. M.; Senyakhin, V.V.

TITLE: Economic efficiency of substituting steel radiators for brass units

CITED SOURCE: Tr. Chelyab. in-ta mekhaniz. i elektrifik. s. kh., vyp. 16, 1963, 313-315

TOPIC TAGS: tractor radiator, brass radiator, steel radiator, radiator service life, cost efficiency study/tractor T-100

TRANSLATION: At an annual production of 30,000 tractors of model T-100, the use of steel radiator cores to replace brass units can save 840 metric tons of brass L-95, 336 tons of brass L-62 and 100 tons of solder POS-18. The total monetary savings amount to 1,181,910 rubles. The steel radiator is equal in thermal characteristics to the better brass units used on tractors. Its shortcoming is a shorter service life. The authors emphasize the need for more research on improvements in the service life of steel radiators. S. Tapel'zon

SUB CODE: PR ENCL: 00

Card 1/1

25575
S/145/60/000/001/010/010
D221/D306

26.5200

AUTHOR: Senyakin, V.V., Engineer

TITLE: Some improvement in accuracy in the theory of heat transfer for the case of ribbed tube heat exchangers

PERIODICAL: Izvestiya vyssnykh uchebnykh zavedeniy. Mashinostroyeniye, no. 1, 1960, 150 - 155

TEXT: The amount of heat given up by the external surface of a heat exchanger between ribs, F_2 m^2, is defined by Newton's

$$Q_T = F_2 \alpha_2 (t_{c2} - t_L) \quad (1)$$

in Kcal/hour, where α_2 is the coefficient of heat transfer to air from the external surface of tubes in Kcal/m^2hour^oC; t_{c2} is the average temperature on the surface between ribs of tubes in ^oC; t_L is the average temperature of air in the heat exchanger in ^oC. Heat transferred by the cooling surface of ribs $F_r m^2$ -- and taking into

Card 1/6

Some improvement in accuracy ...

which gives the coefficient of heat transfer of a finned tubular heat exchanger expressed in terms of the internal surface of tubes. In this equation α is the coefficient of heat transfer from a hot liquid to the internal surfaces of tubes; F_1 is the internal surface of tubes; δ and λ are the thickness and coefficient of heat transfer of tube walls;

$$\psi_1 = \frac{F_2'}{F_1}; \quad \psi_2 = \frac{F_r}{2F_1}, \quad \text{and} \quad n = \frac{\delta_r \lambda_r}{H^2}.$$

This equation characterizes the relationship between the coefficient of heat transfer, and therefore, also the efficiency of a finned tubular heat exchanger and its design factors as well as the material of tubes and ribs (through δ, λ, ψ_1, ψ_2 and n), parameters of fluid and air flows in the exchanger, and other factors (due to α_1, α_2 and α_r). The author introduces then the notion of coefficient of use for the surface of ribs. This is designated by η_r as a ratio

Card 3/6

Some improvement in accuracy ...

distinct from the usually adopted coefficient of ribbing $\psi = \frac{F_2' + F_r}{F_1}$. The introduced finning coefficient of the heat exchanger takes into consideration not only the design and geometrical parameters of the unit, but also its thermal indices. The quality of heat exchangers can be evaluated to some degree by

$$\frac{\psi'}{\psi} = \frac{F_2' + \eta_r F_r}{F_2' + F_r} = \frac{F_v'}{F_v} < 1. \qquad (16)$$

The quantity of $F_r' = \eta_r F_r$ is called by the author the reduced surface of heat exchanger, whereas $F_v' = F_2' + F_r'$ is the reduced ventilating surface of heat exchanger. Eq. (13) was deduced for single layer tubes. Thermal resistance of tubes in heat exchanger (δ/λ) is less than 1 % of the total resistance of other elements. It should be noted that all factors entering into equation of the coefficient

Card 5/6

SENYANINOVA - KORCHAGINA, M. V.

20617 K voprosy o klassifikatsii zhiznennyleh form (Rasteniy). Uchen. zapiski (Leningr. gos. un-t im. zhdanova), Seriya. geogr. nauk, vyp. 5, 1949, s. 54-151 - Bibliogr: s. 100-02

SO: LETOPIS ZHURNAL STATEY - Vol. 28 - Moskva - 1949

SENYANINOVA-KORCHAGINA, M.V.

Classification of growth forms. Uch.zap.Len.un. no.104:54-151 '49.
(MLRA 10:1)

(Botany--Classification)

SENYANINOVA-KORCHAGINA, M.V.

Phytoclimate of Leningrad Province and provinces adjacent to it.
Uch.zap.Len.un. no.124:169-254 '49. (MIRA 9:6)
(Leningrad Province--Vegetation and climate)

1. SENYANINOVA-KORCHAGINA, M. V., KORCHAGIN, A. A.

2. USSR (600)

4. Botany - Ecology

7. Influence of geographical surroundings on the development of forms among plants. Uch. zap. Len. un. no. 143, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

SENYANINOVA-KORCHAGINA, M. V.

Thistle

Nature of the inferior ovary in thistles. Biul.MOIP. Otd.biol. 57 No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SENYANINOVA-KORCHAGINA, M.V.

New species of bent grass. Bot.mat.Gerb. 15:28-30 '53. (MLRA 7:2)
(Grasses)

SENYANINOVA-KORCHAGINA, M.V.; KORCHAGIN, A.A.

New species of Deschampsia. Bot.mat.Gerb. 15:31-35 '53.
(MLRA 7:2)
(Grasses)

SENYANINOVA-KORCHAGINA, M.V.

"Branched" viviparous bistort (Polygonum viviparum Linn); with six drawings. Bot.zhur. 38 no.2:253-260 Mr-Ap '53. (MLRA 6:6)

1. Kafedra Botanicheskoy geografii Leningradskogo Gosudarstvennogo universiteta im. A.A. Zhdanova. (Bistort)

SENYANINOVA-KORCHAGINA, M.V.

Xeromorphism of evergreen swamp Ericales. Uch.zap.Len.un. no.213:3-110 '56. (MLRA 10:3)
(Ericales)

SENYANINOVA-KORCHAGINA, M.V.; ANAN'YEVA, A.A.

Seasonal and age fluctuation in the starch and water content of evergreen bog. Ericales and crowberry. Uch. zap. Len.un no.213;295-311 '56. (MLRA 10:3)

(Ericales) (Crowberry)

SENYANINOVA-KORCHAGINA, M.V.

K.

USSR/Forestry - Tree Biology and Typology

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95018

Author : Korchagin, A.A., Senyaninova - Korchagina, M.V.
Inst : -
Title : Forests of the Mologo-Sheksninskiy Inter-Riverine Area (Oak, Black Alder and Spruce Plots).

Orig Pub : Tr. Darvinsk. gos. zapovedn., 1957, vyp. 4, 291-402.

Abstract : The forests of the Mologo-Sheksninskiy inter-riverine area were investigated in 1933; at the present time, a great part of this area is flooded with waters of the Rybinskiy Reservoir, and the territory then occupied by river-valley forests of oak black alder and spruce plots are presently covered with water. The relief and soil are described and the general characteristics of the forest vegetation are given. It is noted that oak forests suffered strongly in the river valley, and spruce plots on lake-glacial watershed deposits. The following types

Card 1/2

- 10 -

SENYANINOVA-KORCHAGINA, M.V.; MOSKOVTSEVA, L.V.

Effect of microrelief on the texture of plants and crop yields [with summary in English]. Vest.LGU 13 no.12:136-153 '58 (MIRA 11:12)

(Roshchino District--Physical geography) (Field crops)